MEDEX

MID-LEVEL HEALTH WORKER TRAINING MATERIALS

TRAINING PROGRAM DEVELOPMENT:

Continuing Education Manual

02113

35 VOLUMES

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World Health Forum, Vol. 4, 1983

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First Edition
Second Printing, July 1986

CONTINUING EDUCATION MANUAL

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The MEDEX Primary Health Care Series

[illegible] HEALTH CELL

CONTINUING EDUCATION MANUAL

© 1983
Health Manpower Development Staff
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University of Hawaii, Honolulu, Hawaii, U.S.A.

02113
PHC-100

Library of Congress Catalog Card No. 83-80675

First Edition

Printed in U. S. A.

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FUNDED BY THE U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT CONTRACT NO. DSPE-G-0006. The views and interpretations expressed are those of the Health Manpower Development Staff and are not necessarily those of the United States Agency for International Development.

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Introduction

The Continuing Education Manual makes continuing education part of the mid-level health worker supervisory system. The manual is designed for use in a workshop to prepare the program manager and his staff to train supervisors to fulfill their responsibility for providing continuing education to mid-level health workers. The program manager and his staff can also use the manual for conducting a workshop with supervisors.

The Continuing Education Manual takes a five-step approach to systematic continuing education.

Step 1: Determining whether the mid-level health workers are meeting previously identified community health needs

Step 2: Evaluating the job performance of mid-level health workers and identifying the workers' continuing education needs

Step 3: Stating learning objectives to meet the identified continuing education needs of mid-level health workers

Step 4: Developing and implementing continuing education, using available resources and appropriate methods

Step 5: Evaluating the effectiveness of the continuing education program

The continuing education program for mid-level health workers applies the components of a competency-based training program introduced in the Training Process Manual. The Continuing Education Manual provides the program manager with guidelines for improving the adapted curriculum on the basis of feedback from mid-level health workers. The activities that accompany each section of the Continuing Education Manual form the basic design for an ongoing, systematic continuing education program.

SECTION 1

Introduction to Continuing Education

PROGRAM MANAGER'S GUIDE

OBJECTIVES

After completing the activity in this section, you should be able to develop a presentation and conduct a discussion of your continuing education program.

To achieve these objectives, you must know:

1. What continuing education means as it applies to your program
2. Why continuing education is important
3. Who is responsible for continuing education
4. Where continuing education fits into your primary health care program
5. Your continuing education policy and regulations
6. How to plan, implement, and evaluate continuing education

ACTIVITY

Prepare a presentation and conduct a discussion of your continuing education program.

RATIONALE

Your primary health care program has invested a great deal of time, manpower, and material resources in the training of mid-level health workers. Through this training, the mid-level health worker has learned skills he can use to improve primary health care services. However, the mid-level health worker's training needs do not end when he finishes the mid-level health worker training program. A mid-level health worker's job performance will soon start to deteriorate if he does not receive the supervision, support, and continuing education that will help him to continue to do a good job. A continuing education program can assure that the worker not only maintains his knowledge and skills, but also improves and expands upon them to continue to meet community health needs.

PROGRAM MANAGER'S NOTE:

YOU HAVE THE MAJOR RESPONSIBILITY FOR ASSISTING THE SUPERVISOR TO PROVIDE CONTINUING EDUCATION.

1.1 WHAT IS CONTINUING EDUCATION?

Before starting to develop a continuing education program, all parties involved must understand what continuing education means. Continuing education includes all of those educational activities that take place after a mid-level health worker or any other category of health worker has finished training. The educational activities increase the mid-level health worker's ability to meet specific community health needs, job needs, and individual needs.

The primary goal of continuing education is to prevent deterioration of the mid-level health worker's skills and knowledge. Achieving this goal means assuring that the mid-level health worker maintains his expected level of performance in providing quality primary health care services. This does not mean that the worker maintains just some of his knowledge and a few of his skills. He must maintain all of the skills he has been trained to perform in his community health, clinical, maternal and child health, and health center management tasks. If the worker forgets some knowledge or skill, the continuing education program provides for early detection and correction of lost or incorrect knowledge or defective performance.

The second goal of continuing education is to provide the mid-level health worker an opportunity to improve his existing knowledge and skills, making him an even more effective worker.

The third goal of continuing education is to give the mid-level health worker new knowledge and skills. These will help the worker grow in his job.

1.2 WHY IS CONTINUING EDUCATION IMPORTANT?

Once a mid-level health worker finishes training and arrives at his job site, his skills and knowledge start to deteriorate if he does not receive the continuing education he needs. Without continuing education, the worker may realize that he has forgotten some of the knowledge and skills he learned. He may face problems he has not learned to solve. He may receive directives he is not sure how to carry out. Under such circumstances, a worker may become discouraged. He may start taking short-cuts in his work. He may start

to perform in a manner contrary to the way he was trained to perform. He may perform below set standards.

1.3 WHO IS RESPONSIBLE FOR CONTINUING EDUCATION, AND WHERE DOES IT FIT INTO THE PRIMARY HEALTH CARE PROGRAM?

A major prerequisite for continuing education is an effective supervisory support system for mid-level health workers. The supervisor serves as the bridge between the mid-level health worker and his team at the rural health center, and the district level health team. The supervisor identifies community health needs. He analyzes the mid-level health worker's job performance, identifies the worker's continuing education needs, assures that the worker receives the continuing education he needs, and evaluates the quality and the results of the continuing education the worker receives.

The mid-level health worker also has responsibilities. His first responsibility is to consistently perform at the level of competence of his training. He must know the requirements of his job. He must know how to use his modules and manuals for reference. He must effectively and efficiently use other material and human resources that he developed during his training. Fulfilling these responsibilities will help the worker to maintain his own knowledge and skills. It will help both him and his supervisor to identify his strengths and correct any weaknesses. The mid-level health worker is also responsible for informing his supervisor of his continuing education needs.

Experience has shown that this team effort between the supervisor and mid-level health worker is most effective when both are motivated individuals. The team approach works better when the supervisor participates rather than dictates. The more supportive the supervisor, the more responsive the mid-level health worker will be to the supervisor's suggestions.

As program manager, you have the major responsibility of assisting the supervisor to provide continuing education.

1.4 WHAT IS THE CONTINUING EDUCATION POLICY FOR THE PRIMARY HEALTH CARE PROGRAM?

Supervision and continuing education require clearly stated policies and guidelines and a regional or national commitment to carrying out these policies. The statement defining the continuing education policy of the primary health care program must specify how the policy applies to the mid-level

health worker. It must clarify the roles and responsibilities of both the program manager and the supervisor. This statement informs the mid-level health worker of what he can expect from you and what you expect from him, both in preparation for and participation in the continuing education program.

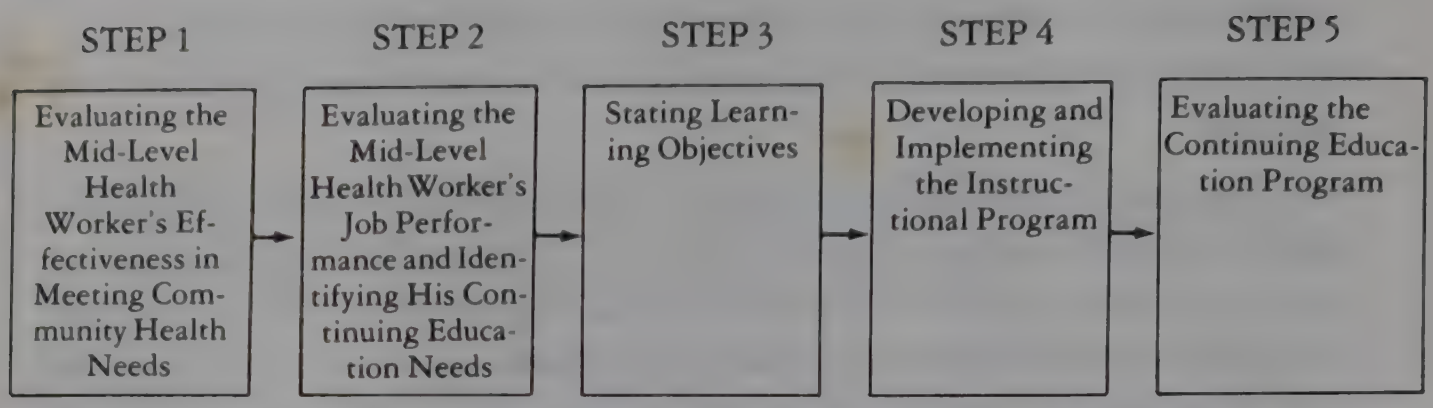
You should not use this policy statement as a means for policing or harassing mid-level health workers. You should use it as a means for assuring that the mid-level health worker will receive the continuing education he deserves. The policy statement sets a precedent that encourages similar policy statements for other categories of health workers. Such policy statements will help to strengthen all levels of health teams through continuing education.

The program manager and supervisor can either assist the policy committee or serve as resource people when the committee formulates the continuing education policy. The program manager is responsible for assuring not only that the supervisor and the mid-level health worker understand the policy, but also that they implement it. As the primary health care program and the continuing education program evolve, the committee should review the policy periodically to ensure that it accurately reflects change in the program.

1.5 FIVE STEPS FOR PLANNING, IMPLEMENTING, AND EVALUATING CONTINUING EDUCATION

In the remaining units of this manual, you will learn in detail how to plan, implement, and evaluate a continuing education program. The program manager and supervisor work together in the development of a continuing education program. The steps for developing the program are similar to the steps for developing a competency-based training program, described in the Training Process Manual. The figure illustrates the development cycle of a continuing education program. This cycle helps the training program staff improve training. It enables revision of modules, learning activities, and reference manuals. Continuing education enables graduates to learn of revisions in the modules and reference manuals. The cycle does not end. Continuing education is an activity that goes on and on.

FIVE STEPS FOR PLANNING, IMPLEMENTING, AND EVALUATING YOUR CONTINUING EDUCATION PROGRAM



These are the five steps for planning, implementing, and evaluating your continuing education program.

Step 1: Evaluating the Mid-Level Health Worker's Effectiveness in Meeting Community Health Needs

Step 2: Evaluating the Mid-Level Health Worker's Job Performance and Identifying His Continuing Education Needs

Step 3: Stating Learning Objectives

Step 4: Developing and Implementing the Instructional Program

Step 5: Evaluating the Continuing Education Program

ACTIVITY 1

Developing a Presentation and Conducting a Discussion of Your Continuing Education Program

Develop a presentation and conduct a discussion of your continuing education program that includes:

1. A clear definition of continuing education as it applies to your program
2. A clear statement of why continuing education is important
3. A clear statement of who is responsible for continuing education
4. A clear statement of where continuing education fits into your primary health care program

To prepare yourself to make this presentation and to conduct the discussion:

1. Review the Training Process Manual, Section 1, "Introduction to Competency-Based Training"; Section 5, "Adapting the Student Texts and Reference Manuals"; and Section 7, "Preparing the Instructors and Adapting the Instructional Materials."
2. Review the description of continuing education in Section 1 of this manual.
3. Review any documents of your primary health care program that are specifically related to continuing education policy, community health needs, evaluation of mid-level health workers' performance, and continuing education needs or activities.
4. Review any documentation you have received from supervisors of mid-level health workers.

As program manager, you will make presentations to the primary health care program staff; the policy committee, if necessary; supervisors of mid-level health workers; and ministry, regional, or district level health personnel, as necessary. You will train supervisors to make presentations to the district health team, mid-level health workers, and rural health center team members.

The materials required to complete this activity include overhead projections or handouts of the following:

1. The definition of continuing education as it applies to your program

2. A statement of where continuing education fits into your primary health care program and who is responsible for what components of the continuing education program
3. The continuing education policy and regulations
4. Any forms to be used to verify that the program has met the mid-level health worker's continuing education requirements
5. The proposed steps or steps you are following for planning, implementing, and evaluating the continuing education program
6. Examples of continuing education in the past or present, including continuing education for health team members and community health workers provided by mid-level health workers
7. Data recorded to date concerning assessment of community health needs, evaluation of mid-level health workers' job performance, and assessment of the workers' continuing education needs

GUIDELINES

Remember to follow these steps when developing and making your presentation on continuing education.

1. Prepare objectives to guide the presentation.
2. Involve the audience in the presentation.
3. Help the audience reach your objectives.
   a. Tell them what you are going to say.
   b. Say it.
   c. Tell the audience what you said.
4. Find out what the audience knows and thinks at the conclusion of the presentation.
5. Enhance the presentation with visual aids.
6. Remember! People remember 10% of what they hear, 50% of what they hear and see, and 90% of what they hear, see, and do.

SECTION 2

Evaluating the Mid-Level Health Worker's Effectiveness in Meeting Community Health Needs

PROGRAM MANAGER'S GUIDE

OBJECTIVE

After completing the activity in this section, you should be able to train supervisors to develop questionnaires for use in identifying community health needs and evaluating the mid-level health worker's effectiveness in meeting those needs.

To achieve this objective, you must know:

1. The three categories of people most familiar with community health needs
2. What questions the supervisor must answer to determine whether the mid-level health worker is meeting the community health needs
3. What questions the supervisor must answer to correct any problems he identifies in the worker's effectiveness in meeting community health needs

ACTIVITY

Develop continuing education questionnaires for supervisors to use with mid-level health workers.

RATIONALE

Early in the development of your primary health care program, you identified community health needs to define the job the mid-level health worker would have to do to meet those needs. To determine the mid-level health worker's continuing education needs, the supervisor must continue to identify community health needs and to evaluate the worker's effectiveness in meeting those needs.

PROGRAM MANAGER'S NOTE:

THE SUPERVISOR'S EVALUATION OF THE MID-LEVEL HEALTH WORKER'S EFFECTIVENESS IN MEETING COMMUNITY HEALTH NEEDS IS THE FIRST STEP IN THE DEVELOPMENT OF A CONTINUING EDUCATION PROGRAM.

2.1 IDENTIFYING COMMUNITY HEALTH NEEDS

Identifying community health needs and evaluating the mid-level health worker's effectiveness in meeting those needs are the first steps in the five-step development cycle for planning, implementing, and evaluating a continuing education program. The experienced supervisor realizes that three categories of people are more familiar with community health needs than he is, because they have had more community exposure. These people are community members and leaders, community health workers, and mid-level health workers. The experienced supervisor relies heavily on these people to help him identify community health needs and to evaluate whether the mid-level health worker is meeting those needs.

2.2 EVALUATING THE MID-LEVEL HEALTH WORKER'S EFFECTIVENESS IN MEETING COMMUNITY HEALTH NEEDS

The ability of the mid-level health worker to meet the health needs of the community by working with community members, the community health worker, and other health center and district health team members is the ultimate measurement of the success of any primary health care program. When the worker is meeting community needs, the supervisor is responsible for ensuring that the worker maintains his level of performance. When the worker is not meeting community health needs, the supervisor is responsible for clearly defining the problem and then determining what action is necessary to correct the problem.

To determine whether the mid-level health worker is meeting the community health needs he was trained to meet, the supervisor has to go to the rural health center and the communities that the mid-level health worker serves, and answer the following questions.

> Is the worker adequately trained to meet the needs of the community? If not, is his training inadequate, or have the needs of the community changed?

Have the goals of the country's health plan changed, and have the changes affected the mid-level health worker's performance?

Is the mid-level health worker receiving the support he requires from the supervisor?

Are the eight management support systems—drugs and medical supplies, general supplies, facilities and equipment maintenance, transportation, communication, personnel, finance, and health information—operating effectively?

Is some other obstacle blocking the health center team's ability to do its work?

When the mid-level health worker is not meeting the needs of the community, the supervisor must clearly define the cause of the problem, by answering the following questions.

What needs to be done?

Why does it need to be done?

Who should do it?

Where should it be done?

How should it be done?

When should it be done?

If the mid-level health worker is meeting the community's health needs, the job of continuing education is to maintain and improve the worker's performance.

ACTIVITY 2

Developing Continuing Education Questionnaires for Supervisors to Use with Mid-Level Health Workers

This activity will prepare the program manager to work together with the supervisor to develop or improve continuing education questionnaires for mid-level health workers. The supervisor will send these questionnaires to mid-level health workers or use them to guide interviews with mid-level health workers.

To prepare for this activity, review:

1. Unit 7, "Planning and Evaluation for Supervisors," in the Supervising and Supporting Mid-Level Health Workers module
2. Section 7, "Preparing the Instructors and Adapting the Instructional Materials," in the Training Process Manual
3. The Introduction and Section 1, "Skill Assessment," in the Training Evaluation Manual
4. The skill checklists in the mid-level health worker modules
5. The criteria for mid-level health workers' performance stated in the Patient Care Procedures, Diagnostic and Patient Care Guides, Community Health manual, and Health Center Operations manual
6. The description of evaluating mid-level health workers' performance and identifying continuing education needs in this section

Experience has shown that the information collected through the use of questionnaires is only as good as the quality of the questions used in the questionnaire. Experience has also shown little benefit in developing, distributing, and collecting questionnaires without tabulating and analyzing the information. Designing a questionnaire that will provide the reviewer with the quality of information desired requires skill and practice. If time and resources allow, before the supervisor widely distributes a questionnaire, he should test it with a few mid-level health workers to determine if it produces the desired information. A practical way of doing this is to use the questionnaire as an interview guide during visits to mid-level health workers.

The following hints are a result of the use of questionnaires to determine the continuing education needs of mid-level health workers in five primary health care programs.

1. Avoid the temptation to make the questionnaire long.

2. Make sure the supervisor is clear about the type of information he wants to collect. Does he want to collect a sample of information concerning all aspects of the mid-level health worker's job? Does he want more detailed information about one or two aspects of his job? Is he going to use different questionnaires to collect specific information about different aspects of the worker's job?
3. Ask the questions as clearly as possible. If necessary, provide an example of the type of information the supervisor wants.
4. Design the questionnaire so that the supervisor can use one master copy to tabulate and analyze information from several mid-level health workers' responses. Questions that require short answers, yes or no answers, or answers on a numbered scale are easier to tabulate and analyze than are long answers or narrative responses.
5. Test the questionnaire with a few mid-level health workers to identify and restate or delete ambiguous questions.
6. Whenever possible, the supervisor should hand-carry the questionnaire to the mid-level health worker. Sit down and review the questionnaire with him. If time allows, let him complete it while the supervisor is at the health center so he can answer any questions the worker may have. Or review completed questionnaires with individual mid-level health workers to clarify any questions or problems the supervisor or the mid-level health worker has before the supervisor starts to tabulate and analyze all of the information he has received.

Appendices B, C, and D are examples of actual questionnaires. They accomplished the objective of identifying specific continuing education needs of mid-level health workers. They provided program managers and supervisors with the information they needed to identify and meet individual and group continuing education needs.

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SECTION 3

Evaluating the Mid-Level Health Worker's Job Performance and Identifying His Continuing Education Needs

PROGRAM MANAGER'S GUIDE

OBJECTIVES

After completing the activities in this section, you should be able to train supervisors to evaluate the performance of mid-level health workers by using oral reports and interviews, review of written material, and observation of performance. And you should be able to train the supervisors to use their evaluations to determine the specific continuing education needs of the mid-level health workers.

To achieve these objectives, you must know:

1. How to use three levels of questions: knowledge-recall questions, knowledge-application questions, and problem-solving questions
2. How to use two types of questions: exploring questions and digging questions
3. How to use oral tests to evaluate the mid-level health worker's ability to recall knowledge and to find answers in his modules and reference manuals
4. How to find and review written information in documents, reports, records, forms, logs, and diaries
5. How to use continuing education questionnaires
6. Where to find specific criteria for evaluating the mid-level health worker's performance

ACTIVITY

Analyze community health needs, mid-level health workers' continuing education needs, and evaluation techniques used with mid-level health workers.

RATIONALE

Any supervisor applies one, if not all three, of the evaluation techniques. This is an opportunity for you to complete an informal evalua-

tion of how well your supervisors have used the techniques. You will also have an opportunity to refine the techniques. These refinements will help strengthen the continuing education program and make the supervisors' jobs easier. You are now participating in your own continuing education. Your statements of problems and suggestions for solutions will enrich this opportunity to improve the work you are already doing.

PROGRAM MANAGER'S NOTE:

ONLY THROUGH EVALUATION OF THE MID-LEVEL HEALTH WORKER'S JOB PERFORMANCE CAN THE SUPERVISOR CLEARLY DEFINE CONTINUING EDUCATION NEEDS.

3.1 EVALUATING THE MID-LEVEL HEALTH WORKER'S JOB PERFORMANCE AND IDENTIFYING HIS CONTINUING EDUCATION NEEDS

The mid-level health worker's training prepared him to do a specific job. The supervisor needs to find out if the worker is performing the job as expected. A job-performance evaluation will identify the parts of the worker's job that he is performing well and those that he is performing poorly.

Techniques for evaluating job performance include oral reports and interviews, written reports and questionnaires, and observation of performance. By combining these different techniques of evaluation, the supervisor can develop the method that works best for him and the worker. This method will ensure that the supervisor has the necessary information when he plans the specifics of the continuing education program.

3.2 WHEN TO EVALUATE THE MID-LEVEL HEALTH WORKER'S JOB PERFORMANCE

The skilled supervisor will not start evaluating the mid-level health worker's skills, reviewing his records, or conducting an in-depth interview as soon as he arrives at the health center. A few patients usually need the supervisor's immediate attention. The supervisor may have to attend an important meeting with a community leader before he can do anything. The worker often has personal issues or other important matters to discuss. Housing, schooling for children, receiving his paycheck on time, and promised improvements at the health center are common concerns of the mid-level health worker and the health center team. The supervisor who remembers to bring some personal items the health team has requested from the district center can lift the morale of the health team.

Only after the supervisor has satisfied some of these more immediate needs of the mid-level health worker and the health team can he begin a meaning-

ful evaluation of the worker's performance. The mid-level health worker will not be as preoccupied with unresolved problems. He will be able to perform more at his level of competence because he will be able to give his work his undivided attention. He will want to perform at his best because of the support he is receiving from his supervisor and because of his concern for the well-being of the people he is responsible for serving.

3.3 ORAL REPORTS AND INTERVIEWS

Oral reports and interviews are efficient ways of collecting a lot of information about people's attitudes. The supervisor can quickly determine the type of work the mid-level health worker performs on the job. And he can immediately evaluate the ability of the worker to recall knowledge.

By using oral reports and interviews, the supervisor can evaluate:

- The mid-level health worker's oral communication skill
- The activities that the worker reports he has performed
- The attitude of the worker toward other members of his health team, and their attitudes toward him
- The attitude of the mid-level health worker toward the people he is to serve, and their attitudes toward him
- The worker's ability to recall knowledge, apply knowledge, and solve problems

Sources of Information

The supervisor should collect this type of information directly from the worker—in person, by means of two-way radio, or by telephone. He can also collect the information from a person the mid-level health worker serves. He can collect it from someone who has observed the mid-level health worker providing a service. The information may also come from a third person, such as a community leader, who is aware of the services the mid-level health worker is providing. For example, a mother comments to the community leader about the care her child received from the mid-level health worker. Then the community leader gives this information to the supervisor.

Although oral reports and interviews are efficient and easy ways of collecting a lot of information, the quality of the information the supervisor collects depends upon his interviewing skills, his ability to listen, his ability to ask appropriate questions, and his use of questioning techniques.

Even with these skills, the supervisor will often face attitudes, personalities, and cultural considerations that will affect the quality of information he collects. These considerations are normal, and the supervisor should expect them when working with people.

Information the supervisor collects in oral reports and interviews is usually subjective information based upon people's attitudes. People use their own criteria for judging whether something is good or bad. They use their own standards to determine whether someone is doing a good job or a poor job. This type of information is useful because it represents people's attitudes. Their attitudes are important to them. Their attitudes reflect their satisfaction or dissatisfaction with the services the mid-level health worker provides. The supervisor is responsible for trying to evaluate the quality of the information he receives from others as objectively as possible.

Techniques of Questioning

Good questions help to create a discussion with the mid-level health worker about the work he has been doing and how well he is doing his job. The following table of examples shows what the levels of questioning may tell the supervisor about what the mid-level health worker knows.

Levels and Types of Questions

LEVEL	PURPOSE	EXAMPLE
Knowledge-recall	Asks for worker's conclusion	What is the most common community health problem in your area?
Knowledge-application	Asks how worker reached his conclusion	In what ways did you determine that children's dying from dehydration caused by diarrhea is the most common community health problem?
Problem-solving	Asks for demonstration of worker's ability to solve problems	What have you done to prevent children from dying of dehydration caused by diarrhea?

TYPE	USE	EXAMPLE
Exploring Question	Commonly used with a knowledge-recall question	Who besides you thinks that children's dying from dehydration caused by diarrhea is the most common community health problem?

TYPE	USE	EXAMPLE
Digging Question	Used in a "helping" way	You, the community leaders, and the community health workers think this is a problem. Do mothers also think that this is the most common community health problem?
Digging Question	Used in a "clarifying" way	Mothers think that this is the most common problem because the traditional medicine for diarrhea does not work very well. What traditional medicine do they use?
Digging Question	Used in an "explaining" way	You mentioned that you feel that bottle feeding of babies is a primary cause of infant diarrhea and also of malnutrition. Can you explain why you think this is so?
Digging Question	Used in a "stretching" way	Yes, use of contaminated, unboiled, water is one reason that the formula becomes contaminated and the babies develop diarrhea. But even if the water was boiled, can you think of other ways the formula could become contaminated, causing babies to develop diarrhea?
Digging Question	Used in a "directing" way	Midwife Tambah, do you have any comments you would like to add concerning what Mid-Level Health Worker Mopha reports as other ways the formula could be contaminated?

The supervisor's questioning skills and how he responds to the answers are a valuable method of providing immediate continuing education.

For the busy supervisor, knowledge-application and problem-solving questions provide the most useful information. Remembering whether he is using a helping, clarifying, explaining, stretching, or directing type of digging question is not important. What one supervisor would call a clarifying question may be an explaining question to someone else. The important thing for the supervisor to remember is the three different levels of questions and the different types of questions that will help him to gather the type of information he needs to better evaluate the knowledge of the mid-level health workers he supervises.

Oral Tests

Oral tests can provide the supervisor with information concerning the mid-level health worker's ability to recall knowledge. In responding to the supervisor's questions, the mid-level health worker can also demonstrate his ability to find the answer in his modules or reference manuals. He can demonstrate that he recognizes his limitations by saying that he does not know the answer. The supervisor can ask the worker to respond to his presentations of oral case studies. He can use questions such as, "What are the symptoms and signs for diagnosing meningitis in a five-year-old child?" or "How would you treat a five-year-old child you have diagnosed as having meningitis?"

3.4 ANALYZING INFORMATION COLLECTED THROUGH ORAL REPORTS AND INTERVIEWS

The supervisor analyzes information collected through oral reports and interviews to identify specific continuing education needs so that he can state learning objectives. He compares this information with the information he has collected from the review of written documents and by observing the performance of mid-level health workers. This comparison may help to make information he has collected through oral reports and interviews more specific. If this comparison does not help, then the information he has collected through oral reports and interviews is of little use. He will have to either conduct additional interviews or use a different technique to identify the continuing education need.

When the supervisor reviews his notes on the information he collected through oral reports and interviews, he looks for specific information to help plan the continuing education program. He should not discard notations of how well the mid-level health workers perform. He can compare these notes with future notations to see if the mid-level health workers are still performing as well. But, for the present, these notes do not identify a continuing education need.

The following table provides examples of vague information, specific information, and analysis of the information collected using the oral report and interview technique. The examples of vague information provide limited assistance in identifying the specific continuing education needs of the mid-level health worker, unless by reviewing this type of information the supervisor can recall specific details. The examples in the specific information column give a better idea of the continuing education needs of the mid-level health worker.

Analyzing the Information Collected by the Oral Report or Interview Technique

VAGUE INFORMATION	SPECIFIC INFORMATION	ANALYSIS
The mid-level health worker reports that he needs practice auscultating lungs.	The mid-level health worker reports that when auscultating the lungs he is having difficulty identifying the difference between the rales heard with pneumonia and the rhonchi heard with acute bronchitis.	The mid-level health worker needs to practice auscultating the lungs of patients with pneumonia and acute bronchitis to identify the differences between the sounds of rales and rhonchi.
The mid-level health worker reports that he is having difficulty filling out his forms.	The mid-level health worker reports that if he has recorded that a woman has received a tetanus booster during a prenatal visit, he does not know whether he should transfer this information to the Patient Card from the Maternity Card after the woman delivers.	The mid-level health worker needs to note that the woman has received a tetanus booster, and the date, on her Patient Card.
The midwife reports that the mid-level health worker does not know what he is doing.	The midwife reports that the mid-level health worker has difficulty inserting a nasogastric tube for feeding a baby. The mid-level health worker reports that he has had difficulty inserting a nasogastric tube for feeding a baby.	The supervisor needs to review with the mid-level health worker the skill checklist for Feeding a Baby by Nasogastric Tube to identify where the worker is having specific problems.
The community leader reports that the mid-level health worker is not doing his job, and that too many babies are still dying from diarrhea.	The community leader reports that the mid-level health worker has done nothing to prepare the community health worker to care for infants with diarrhea. The mid-level health worker reports that he trained the community health worker to make and use oral rehydration solution. The community health worker reports that he really does not understand how to teach	First, the supervisor needs to determine if the mid-level health worker understands when to give an infant oral rehydration solution, how to make and use oral rehydration solution, how much oral rehydration solution to give an infant, when to stop giving oral rehydration solution to an infant, and when a community health worker or mother should come to him for additional help.

VAGUE INFORMATION	SPECIFIC INFORMATION	ANALYSIS
	a mother how much oral rehydration fluid to make, how much to give, when to give it, when to stop giving it, and when to seek additional help.	Next, the supervisor needs to determine if the mid-level health worker can teach someone else this information. The problem may be that the mid-level health worker needs to improve his skill in teaching community health workers.

3.5 WRITTEN REPORTS AND QUESTIONNAIRES

Analysis of written information takes more time than use of oral reports and interviews. But the supervisor can review the written information at his convenience. The primary sources of this information are documents, reports, records, forms, logs, or diaries written or filled out by the mid-level health worker. The supervisor may also find useful written information in documents completed by the mid-level health worker's previous supervisor.

The type of written information the supervisor is reviewing will influence how he interprets the information. The supervisor can objectively evaluate the way a worker completed a drug requisition form. Either he filled it out correctly or he did not. However, the supervisor cannot determine under what circumstances the worker filled out the form or if the worker could have avoided mistakes by taking more time. For example, the mid-level health worker may have found transportation leaving immediately for the district center with a driver who would deliver his requisition form. So he took five minutes instead of his usual thirty minutes to fill out the form. But the skilled supervisor would suspect something out of the ordinary if he noted that the worker had filled out all previous drug requisition forms correctly.

Patient Records

Patient records are an important source of written material for evaluating the worker's knowledge. Either the worker recorded all of the required information to make the diagnosis or he did not. Either the worker made the correct diagnosis, based upon the recorded symptoms and signs, or he did not. Either the patient care is correct for the diagnosis, and the age, weight, and sex of the patient, or it is not. The only skill the supervisor can evaluate here is whether the worker filled out the record correctly,

and how well he communicates in writing. The supervisor will seldom know the particular circumstances that prevailed when the worker completed the record. An experienced supervisor would not be surprised to find that the record of a seriously ill patient who needed immediate referral is very brief, with only the patient identification information, vital signs, a brief medical history, and the most important physical findings, followed by the patient care provided prior to referral. This type of record would be in contrast to the record of a patient who came to the health center with vague abdominal pain, was conscious, and not in acute distress. With this type of patient, the mid-level health worker is more likely to demonstrate his ability to take a patient's medical history, perform a physical examination, and provide care. The record for this type of patient should include more detailed information.

The date of the visit on the record can give the supervisor clues. If the patient visited on January 10, which was a Monday, he had only an upper respiratory infection, and Monday is the day that the mid-level health worker holds a general clinic that forty to sixty patients attend, the record will probably include less information. The next patient who came in on the same day, with the presenting complaint of chest pain and shortness of breath, should have more information on his record. The experienced supervisor takes these types of realities into consideration when reviewing patients' medical records his mid-level health workers complete. Mid-level health workers may often say, "I would have written more on the patient's record, but it is so small, and I just cannot get the quantity of blank record forms I need." Again, the experienced supervisor knows this statement is true, and looks at the record to determine whether the mid-level health worker has noted the information that was critical to the diagnosis and care of the patient.

One caution that the supervisor needs to keep in mind when reviewing patients' medical records that the mid-level health workers write is that he can analyze only the written information to draw his conclusions. He can evaluate the patient's medical history, physical examination findings, and patient care for the diagnosis made only as being correct or incorrect based on the mid-level health worker's Diagnostic and Patient Care Guides. He cannot determine whether the worker missed something in the medical history or the physical examination that resulted in an incorrect diagnosis. For example, what the worker diagnosed as acute bronchitis may in fact have been tuberculosis. The supervisor would suspect this discrepancy only if the record showed that the patient kept coming back for follow-up visits and still was not improving.

Narrative Reports

The worker's narrative reports, such as letters, updates in his Diary of Health Activities, and community health survey summaries may be more subjective. This type of written information is especially valuable if the supervisor knows the mid-level health worker well. The supervisor's knowledge of how objectively or subjectively a mid-level health worker writes narrative reports develops over time. The supervisor will know when one worker writes that something is "really a problem" that it is a problem. He will know that when another worker writes the same thing, the problem may not be as big as the worker feels it is.

Questionnaires, Surveys, and Tests

Other ways of using written information as an evaluation technique include questionnaires, surveys, and tests sent out to mid-level health workers for their response. These techniques are very effective for a variety of reasons. They provide feedback concerning knowledge-retention, attitudes, and needs of the worker. These forms of written information help to maintain the morale of the worker, because he knows people have remembered him by sending him something requiring his response. By tabulating, summarizing, and analyzing the responses from a number of individuals, the supervisor can identify common deficiencies in knowledge and identify attitudinal issues that he must address for the whole group. One of the most common ways of distributing and collecting this type of information is through a newsletter.

The quality and the type of information that the supervisor can collect and analyze through questionnaires can vary considerably. The questions can reflect a bias of the author of the questionnaire. One supervisor may develop a questionnaire to identify the mid-level health worker's need for continuing education concerning patient care. A second supervisor may be more interested in continuing education concerning health center management. A third supervisor may be particularly interested in the mid-level health worker's need for continuing education concerning community health and community health worker training and support.

If you are interested in developing questions to evaluate mid-level health workers' knowledge-recall, review Section 7 of the Training Process Manual, which contains examples of different types of questions and guidelines on how to write questions. In Section 5 of this manual, you can review examples of the types of questions used in newsletters. Appendices B, C, and D are examples of questionnaires used in one country's primary health care program.

The supervisor should use the analysis of written information to augment other evaluation techniques. Analysis of written information can help the supervisor to identify specific topics or issues to address during upcoming discussions with the mid-level health worker. It can help the supervisor to identify what he wants to observe the mid-level health worker doing. Analysis of written information can also supplement and confirm oral reports. Review of a patient's record, following observation of the mid-level health worker's taking a medical history, performing the physical examination, providing care, and counseling a patient, will confirm whether he is recording those important things that the supervisor observed. Analysis of written information is a useful evaluation technique only when used in combination with other evaluation techniques.

3.6 ANALYZING INFORMATION COLLECTED THROUGH WRITTEN REPORTS AND QUESTIONNAIRES

The supervisor analyzes the information collected through his review of written reports and questionnaires to identify continuing education needs. He should follow the same process he used for reviewing information collected through oral reports and interviews.

By comparing his analysis of this information with his analysis of information he collected using other techniques, the supervisor will learn whether he is identifying the same continuing education needs with each evaluation technique. He may identify some needs with this technique that he did not identify using other techniques. This particular technique will help him to evaluate the mid-level health worker's ability to completely and accurately fill out forms and records. He will note how well the worker can communicate in writing.

When the supervisor is reviewing written documents and making notations for future analysis, these guidelines may make his job easier.

> Have a clear understanding of the type of information the document can and cannot provide. Notations in the Patient Register can tell the supervisor whether the patient care was correct for the diagnosis. The notation does not tell the supervisor which diagnosis was correct. The notation does not tell the supervisor if care was provided in the prescribed manner. The supervisor can determine whether the worker can record information in the prescribed fashion. He can judge the quality of the information recorded.

Have a clear understanding of where to look for more complete written information. If an Under-Five Card for a child with malnutrition contains no notations after the child has been sent back to his community, are the notations in the Follow-Up Book or in the Diary of Health Activities?

Use other evaluation techniques to provide missing information.

Keeping these suggestions in mind will help the supervisor to note the type of information he can expect to find in written documents, to analyze his information, and to recognize when he may need to go back and review the material again, or use a different evaluation technique to get the information he needs.

Being able to judge the quality of information is particularly useful when the supervisor reviews the Patient Card, Under-Five Card, Maternity Card, Follow-Up Book, and the mid-level health worker's Diary of Health Activities. In addition, the review of the Patient Register gives the supervisor, at a glance, a wealth of information about the common problems the mid-level health worker is seeing. Over time, the type of patients being recorded in the Patient Register may give the supervisor hints about how effectively the community health workers are doing their work. Perhaps the number and types of common problems being seen at the health center are changing. The decrease in the number of children coming to the health center with diarrhea and malnutrition would be a welcome observation, especially if the supervisor were confident that the community members were satisfied with the care they had been receiving from the mid-level health worker. This finding would be less reassuring if the supervisor suspected that community members were not satisfied with the care they had received, and had stopped bringing their children to the health center.

More women coming to the prenatal clinic, and bringing their infants to the well-baby clinic, and more children being immunized would also be encouraging. If such changes were not the case, then the supervisor may need to develop continuing education strategies to improve the mid-level health worker's skill in encouraging mothers to attend the clinics, as well as promoting immunization of children. The review of written documents is a method of confirming oral reports and observation of performance. It also is a method of identifying possible continuing education needs the mid-level health worker has not recognized.

The supervisor's review of written information reinforces the mid-level health worker's appreciation for the need to accurately and correctly record the proper information. The worker has a better understanding of the need for keeping his paperwork up to date when the supervisor illustrates how accurate records can make the supervisor's job easier. The continuing educa-

tion that results from the information the supervisor collects during his review of written documents provides an added benefit to the mid-level health worker. The supervisor's notes may indicate that mid-level health workers did not appreciate the need to complete their records in the detail he expects. They may not understand how detailed record keeping can help the supervisor to identify their continuing education needs. In fact, improvement of recording skills may be one of their continuing education needs.

As with the oral report and interview technique, the supervisor identifies the continuing education needs of mid-level health workers only when the information he collects during analysis of written documents is specific. Review and analyze the information presented in the following table.

Analyzing the Information Collected through the Review of Written Materials

VAGUE INFORMATION	SPECIFIC INFORMATION	ANALYSIS
The mid-level health worker is not noting on the Patient Card the abnormal physical examination findings required to make some of the diagnoses he is making.	When reviewing six Patient Cards for which the mid-level health worker had made the diagnosis of pneumonia or acute bronchitis, I found no notation of the presence or absence of rales for the patients diagnosed as having pneumonia, and no notation of the presence or absence of rhonchi for the patients diagnosed as having acute bronchitis.	
The mid-level health worker is not filling out forms as completely as he should.	After a woman delivers her baby, the mid-level health worker is not transferring from the Maternity Card to the Patient Card the notation that the woman was immunized against tetanus.	
The mid-level health worker is not properly filling out the Under-Five Card.	When the mid-level health worker referred three infants requiring naso-gastric feedings to the district hospital, he made no notation on the Under-Five Card that he had	

VAGUE INFORMATION	SPECIFIC INFORMATION	ANALYSIS
	performed nasogastric feedings at the health center, or had attempted them unsuccessfully.	
The mid-level health worker's Diary of Health Activities is incomplete.	The mid-level health worker's Diary of Health Activities contains no notation of any follow-up of the training of the community health workers in the use of oral rehydration solution with infants with diarrhea.	

3.7 OBSERVATION OF PERFORMANCE

Observation of the performance of the mid-level health worker is the most concrete evaluation technique. Through objective observation, the supervisor can determine whether the mid-level health worker can perform specific skills at his level of training. He can determine whether the worker needs additional training and support through the continuing education program. The supervisor can observe the worker's performance in two ways. First, he can observe what the worker has done. This technique often gives hints of what the supervisor needs to observe the worker doing. Second, he can observe the worker's performance in a real or simulated work situation.

Observing what the worker has done provides a good initial evaluation of some of the mid-level health worker's community health skills and health center management skills. For example, when the supervisor visits a rural community where the mid-level health worker has been actively involved with the community health worker, community members, and the rural health inspector in constructing pit latrines, all the supervisor has to do is count the number before the mid-level health worker became involved. Closer observations will illustrate the worker's skill in locating latrines in relationship to the drinking water source, and in working with a rural health inspector or sanitarian to teach the proper construction and use of latrines. Proper use of latrines as well as any other personal health practices may become obvious in the supervisor's review of the incidence of diseases that these practices can prevent.

Another example might be the ability of mothers to make and use oral rehydration solution correctly with young children who have diarrhea. A mother's ability to perform these skills is the ultimate evaluation of the mid-level health worker's ability to teach community health workers, who in turn train mothers in this skill.

Obviously, this type of observation requires the supervisor to go to the community. Unfortunately, supervisors sometimes fail to understand that community visits are a necessary and useful means of evaluating the mid-level health worker's attempts at working with community health workers, community members, and other resource people who can help communities to meet their health needs. Many supervisors argue that they do not have the time to visit the communities because of the demands on their time at the health center. For primary health care to work, the supervisor needs to come up with a strategy that balances health center and community-based support and evaluation.

At the health center, the supervisor can make other important observations. Is the facility clean and well maintained? Does the team function in an efficient, well organized fashion? Is the patient flow smooth? Is the pharmacy well organized, with drugs that have an earlier expiration date being used first? Are records well organized and filled out following standard requirements? Do the team members work well together and know and perform their roles? Do the patients seem satisfied with the services they are receiving? The skilled supervisor can draw a lot of valid conclusions from these observations. Such observations are a combination of observing what has been done and what is being done.

Observing Performance in a Work Situation

Evaluating skills is the key to evaluating competence. Skill evaluation is an important component of the competency-based training program completed by the mid-level health workers. The supervisor should apply the same principles when he evaluates the mid-level health worker's performance.

If the supervisor was involved with the initial training of the mid-level health workers, he used and knows the benefits of skill evaluation. If he was not an instructor or supervisor of students, then he may find a review of Section 7 of the Training Process Manual and Section 1 of the Training Evaluation Manual useful. Both of these manuals address skill evaluation in detail. Specific criteria for performance appear in the skill checklists in the modules and in the Patient Care Procedures reference manual.

The skilled supervisor can make direct observations of performance without disrupting the normal work routine at the health center or in the

community. However, to develop these skills, the supervisor must make frequent visits to the health center and the community. In this way the supervisor's presence will nto be a unique event and will not disrupt the routine work schedule. The supervisor who has been involved in the initial training of the worker, supervised his community phase learning experiences, and is completely aware of the worker's job responsibilities will find his job as a supervisor easier. The supervisor who evaluates the worker's performance using specific criteria in Diagnostic and Patient Care Guides, Patient Care Procedures, Community Health, Health Center Operations, and other reference manuals has a distinct advantage over the supervisor who does not know how to use these reference manuals.

Often a supervisor will use his own criteria to evaluate the mid-level health worker's performance. The supervisor may be more comfortable following certain steps that are somewhat different from the steps the mid-level health worker learned. Or, the supervisor may have a preference for treating a specific disease with a different drug than the mid-level health worker learned to use. The supervisor can resolve these differences in two ways. He can accept the way the worker has learned to do something and evaluate his performance based on his training. Or, he can teach the worker the way he prefers to see a skill performed. In the latter case, he must be sure that the resources required for performing a skill his way will be available to the mid-level health worker and fall within the limitations of the workers' job description. Teaching a mid-level health worker how to use a different drug if it is not going to be available to the worker, or teaching him to perform a skill differently if the tools required to perform the skill are not available is pointless.

Observation of performance is the most objective technique for evaluating the worker's performance and whether he is meeting community health needs. To observe performance effectively, the supervisor needs a complete understanding of what the worker was trained to do. He should supplement observation of performance with other techniques of evaluation.

3.8 ANALYZING INFORMATION COLLECTED THROUGH OBSERVATION OF PERFORMANCE

One way the supervisor will analyze the information he has collected through observation of performance will be to compare it to the information he has collected using other techniques.

The supervisor's observations will show what the mid-level health worker,

his team, and the community health workers the mid-level health worker trained and now supports have accomplished. The supervisor can measure these accomplishments against his previous observations.

The information the supervisor has collected and is analyzing should specify not only the worker's level of performance, but also his consistency of performance whenever possible. The supervisor will have more confidence in information he records after observing the worker with six patients than with only one patient.

When discussing performance observations with the supervisor, the program manager must first clearly understand the criteria the supervisor used to evaluate the worker's performance. Did the supervisor follow a particular procedure outlined in the mid-level health worker's reference manual? If not, what criteria did he use to evaluate the worker's performance? Some supervisors may be sensitive to being questioned about the criteria they have used to evaluate worker performance. They feel that their jobs as supervisors are being evaluated. The program manager can avoid a problem such as this by properly orienting the supervisor to his role and the role of the program manager in assisting the supervisor to provide quality support to mid-level health workers. Clearly stated continuing education needs resulting from the supervisor's analysis of the information he has collected will help the program manager assist the supervisor in planning his continuing education program. Study the following examples of information reported by a supervisor resulting from his analysis of continuing education needs.

Example A

A supervisor tells the program manager that all mid-level health workers need to improve their community health survey skill. The mid-level health workers he has observed are missing a lot of information that community members are reporting.

Example B

The supervisor tells the program manager that three of his mid-level health workers need to improve their community health survey skill. When observing the mid-level health workers, the supervisor followed the Community Health Survey Report, which outlines what the mid-level health worker is expected to record. He noted that under the environmental health heading, Mid-level Health Worker Setha reported that the drinking water sources were clean. But the mid-level health worker did not use the Environmental Health Checklists in his Community Health manual when he inspected the two springs. When the supervisor looked at the springs, he found that neither was protected

against surface water contamination, as called for in the Environmental Health Checklist criteria. He noted that the two other mid-level health workers he observed had the same problem, but in different communities.

In the first example, the criteria the supervisor used to evaluate the mid-level health worker's performance are not clear. Furthermore, the supervisor does not make clear what information is missing from the Community Health Survey Report. The supervisor could have reviewed the worker's reports to identify more specific information.

The second example provides more detailed information. First, the criteria used by the supervisor to evaluate the workers' performance are clear. Since the mid-level health workers did not inspect the drinking water sources and only noted what community members reported, the supervisor does not really know if the workers could have correctly used the checklist for springs.

Example C

The supervisor reports that a mid-level health worker needs to improve his suturing skill. The mid-level health worker closed a simple laceration using a simple, interrupted stitch when he should have used a continuing stitch.

Example D

The supervisor reports that a mid-level worker needs to improve his suturing skill. The mid-level health worker closed a simple laceration using a simple, interrupted stitch. But he placed the first stitch at one end of the laceration rather than at the center of the laceration. Sometimes he inserted the needle more than 1 cm from the edge of the wound. The supervisor reports that the mid-level health worker's performance did not follow the procedure for Suturing Superficial Lacerations Using a Simple, Interrupted Stitch found in the Patient Care Procedures reference manual.

In Example C, the mid-level health worker had not learned how to close a simple laceration using a continuous stitch. He had learned to use a simple, interrupted stitch. Without further discussion, the program manager cannot conclude from this information how well the mid-level health worker performed what he was trained to do. He can conclude that the supervisor feels that the mid-level health worker needs to learn how to use a continuous stitch. This type of information, resulting from analysis of observation notes, indicates that the mid-level health worker needs to perform a new suturing skill.

In Example D, the mid-level health worker's suturing skill is obviously not at the level he was trained to perform. He has an obvious need to improve his suturing skill.

Frequently, supervisors will invite the program manager or a designated training staff member to visit mid-level health workers to observe their performance. Supervisors appreciate the opportunity to have their own observations confirmed by the program manager. Supervisors are interested in knowing if the program manager noted something they may have overlooked. The program manager's periodic visits to mid-level health workers give him the opportunity to evaluate information he has received concerning the worker's performance. They also provide the program manager, mid-level health worker, and supervisor the opportunity to sit down together to review all the information collected by using various techniques, to analyze it, and to identify the worker's specific continuing education needs.

3.9 RECORDING THE INFORMATION

A supervisor needs to review only one collection of jumbled notes to recognize that he needs a better way to organize the information he has collected. Many supervisors develop their own systems for recording the information. Supervisors who have not yet devised a system may find the following general principles and specific examples helpful.

Any form or outline the supervisor develops should be easy to use. It should provide simple categories for recording information during a supervisor's visit. It should make retrieval of information easy when the supervisor is reviewing his notes at a later date. It should accommodate information under appropriate headings, no matter what evaluation technique the supervisor uses.

CHECKLIST

MID-LEVEL HEALTH WORKER'S ACTIVITIES, SKILLS, AND DATA TO MONITOR	DATE	NOTES
Clinical, Maternal and Child Health Services		
1. Taking and recording a medical history	23 March 1983	mid-level health worker reported no difficulties; taking medical histories: satisfactory; recording medical histories: satisfactory

In the above example from the Supervising and Supporting Mid-Level Health Workers module, the supervisor can include the evaluation technique under "NOTES."

The type of information supervisors need changes over time. Their emphasis on the type of information they want to collect through interviews and other evaluation techniques may be different during the first visit to a new graduate and the tenth visit to the same graduate. They may need to emphasize management skills while the new mid-level health worker is settling into his newly assigned health center, and community health skills during the next visit.

One thing is certain. If the supervisor does not organize information so he can easily review and analyze it, then the information is useless.

ACTIVITY 3

Analyzing Community Health Needs, Mid-Level Health Workers' Continuing Education Needs, and Evaluation Techniques Used with Mid-Level Health Workers

Develop a list of the evaluation techniques used with mid-level health workers. Use the list:

1. To determine whether mid-level health workers are meeting community health needs
2. To determine the effectiveness of the techniques used to evaluate mid-level health workers' knowledge and performance

Review the suggestions for Activity 1 for preparing, presenting, and evaluating a presentation. Then complete the following worksheet. Note the community health needs supervisors have identified. Note the evaluation techniques used. Identify the evaluation techniques that seem to provide the most objective and useful information.

WORKSHEET
FOR ACTIVITY 3

Analyzing Community Health Needs, Mid-Level Health Workers' Continuing Education Needs, and Evaluation Techniques Used with Mid-Level Health Workers

Community Health Needs and Mid-Level Health Worker Continuing Education Needs	Evaluation Techniques		
	Oral Reports and Interviews	Written Reports and Questionnaires	Observation of Performance

SECTION 4
Stating Learning Objectives

PROGRAM MANAGER'S GUIDE

OBJECTIVE

After completing the activity in this section, you should be able to train supervisors to convert the continuing education needs of mid-level health workers into learning objectives.

To achieve this objective, you must know:

1. How to derive learning objectives from the skills and knowledge training requirements in the task analysis tables of the student texts of the modules
2. Where to find existing learning objectives in the student guides, skill checklists, and teaching plans of the modules
3. How to write learning objectives that state an action that can be measured or observed, describe the criteria for acceptable performance, and tell the students under what conditions they must be able to perform
4. How to state learning objectives for the continuing education of mid-level health workers to maintain existing knowledge and skills, to upgrade existing knowledge and skills, and to add new knowledge and skills to the job description
5. How to establish priorities for the continuing education needs

ACTIVITY

Convert continuing education needs into learning objectives.

RATIONALE

The supervisor must be able to convert the continuing education needs of mid-level health workers into learning objectives. The supervisor must have a clear understanding of the instructional requirements for meeting continuing education needs, and a means of measuring whether the continuing education program is meeting those needs.

The adapted modules for the mid-level health worker state the learning objectives for maintaining the worker's existing knowledge and skills. The objectives appear in the student guides of the student texts and in the teaching plans of the instructor's manuals.

However, if the supervisor is going to improve the mid-level health worker's knowledge and skills or add new knowledge and skills to the

worker's job requirements, he must define the new knowledge and skills as learning objectives. The Training Process Manual explains how to write learning objectives. Once the supervisor has written the learning objectives, he can plan and design the instructional portion of the program.

PROGRAM MANAGER'S NOTE:

CONTINUING EDUCATION SHOULD BE COMPETENCY-BASED TRAINING.

4.1 STATING LEARNING OBJECTIVES FOR MEETING CONTINUING EDUCATION NEEDS OF MID-LEVEL HEALTH WORKERS

Once the supervisor has identified the continuing education needs of the mid-level health worker, the next step is to state the learning objectives. Continuing education uses the same approach as competency-based training. Learning objectives state what the students should be able to do at the end of a learning period.

The following guidelines for stating or adapting learning objectives are helpful when writing objectives:

State an action that you can measure or observe
Describe the criteria for acceptable performance
Tell the students under what conditions they must be able to perform

Complete guidelines and examples for stating or adapting learning objectives appear in Section 5 of the Training Process Manual, "Adapting the Student Texts and Reference Manuals." The adaptation of learning objectives in your mid-level health worker's student texts followed these guidelines.

The three types of learning objectives are the same as the three priorities of continuing education: maintaining existing knowledge and skills, upgrading existing knowledge and skills, and adding new knowledge and skills.

Stating Learning Objectives for Maintaining Existing Knowledge and Skills

The student guides in the training modules state the learning objectives for maintaining existing knowledge and skills. If the supervisor was not involved in the initial training of the mid-level health workers, he should review the modules to become familiar with those objectives. Then, he can either adopt or adapt those objectives as his continuing education program's learning objectives for maintaining existing knowledge and skills.

For example, a supervisor has noticed that some of his mid-level health workers are not diagnosing some infants with diarrhea and dehydration.

He knows that the mid-level health workers were trained to diagnose and treat the common problems of infants and children. And he knows that diarrhea and dehydration are among these common problems. He knows that other mid-level health workers are doing this part of their job as expected. To find the learning objectives he wants to use, he finds the student guide for diarrhea and dehydration in the student text of the Diseases of Infants and Children module. The first objective in the student guide is to recognize these signs and symptoms of diarrhea and dehydration:

Watery stools
Dry lips and mouth
Dry and tenting skin
Sunken eyes
Sunken fontanelle

These are the criteria for diagnosing diarrhea and dehydration in an infant. The supervisor can observe whether the mid-level health worker recognizes these signs and symptoms of diarrhea and dehydration.

Taking this example a step further, suppose that the supervisor has mid-level health workers who can correctly diagnose infants with diarrhea and dehydration, but cannot properly prepare oral rehydration solution for a dehydrated child. In the same student text, the Skill Checklist for Preparation and Use of Oral Rehydration Fluid gives nine very specific steps to follow when preparing and using oral rehydration fluid. The action that the supervisor can measure is the mid-level health worker's preparation and use of oral rehydration fluid. The criteria for acceptable performance are the nine steps.

The supervisor must specify under what conditions the mid-level health worker must be able to perform. Does he want the mid-level health worker to make oral rehydration solution with utensils available at the health center for use at the health center? Or does he want the worker to make oral rehydration solution with utensils available in the household of a mother whose infant is suffering from diarrhea and dehydration?

The instructor's manual for the Diseases of Infants and Children module also states learning objectives, as well as suggestions for preparing and providing learning experiences for a mid-level health worker who has this continuing education need.

Stating Learning Objectives for Upgrading Existing Knowledge and Skills

Frequently, with minor adjustments, the supervisor can revise existing objectives to include requirements for upgrading existing knowledge and

skills. For example, suppose that mid-level health workers are performing well when dealing with women who have malnourished children. But the supervisor feels that the workers should also be emphasizing child spacing. Encouraging families to space their children is another way to prevent malnutrition. The mid-level health workers have been performing satisfactorily teaching all families the six basic health messages on preventing malnutrition. The supervisor wants to add a seventh basic health message, "Space your children at least two years or three years apart."

The action that the supervisor can observe is a mid-level health worker's explaining to couples that they should space children two years or three years apart. The criteria for acceptable performance are the student guides in the student text of the Child Spacing module. The condition under which the mid-level health worker is to fulfill these criteria are whenever he is talking to any mother, either at the health center or in the community, who has a malnourished child.

The supervisor can revise the fifth objective in the student guide for malnutrition, "Teach parents and their families how to prevent and care for malnutrition," to include the seven basic messages for preventing malnutrition. He can revise the parent education section in the skill checklist for "Teaching Parents about Nutrition of Infants and Children" to specify the seven basic health messages on preventing malnutrition.

The new objective could be to explain to any parents with malnourished children, at the rural health center or in the community, the benefits of spacing children every two to three years apart as one of the seven ways of preventing malnutrition, and to demonstrate the uses of the different child spacing techniques that are available.

Stating Learning Objectives for Adding New Knowledge and Skills

When the supervisor has decided to add new knowledge and skills to the worker's job description, he can follow the guidelines for stating learning objectives. He can add to the worker's job the ability to diagnose health problems found to be more common than expected. He can delete the ability to deal with other problems, because they were not common. He can add new tasks and duties to the job of mid-level health worker. But he must identify the new skills and knowledge for each new duty. And he must convert these skills and knowledge into learning objectives for the continuing education program. Whenever possible, mid-level health workers should be involved in stating learning objectives for their continuing education.

ACTIVITY 4

Stating Learning Objectives

Convert identified continuing education needs into learning objectives. State the learning objectives in the following order of priority.

Priority 1: Maintaining existing knowledge and skills

Priority 2: Upgrading existing knowledge and skills

Priority 3: Adding new knowledge and skills

The materials required to complete this activity include the objectives stated in the student guides in the student texts, the teaching plans in the instructor's manuals of the modules, and the discussion on objectives in Section 5 of the Training Process Manual.

Review the discussion in this section on stating learning objectives. Next, transfer continuing education needs that you have listed on the Worksheet for Activity 3, to the following worksheets:

Worksheet A, Maintaining existing knowledge and skills

Worksheet B, Upgrading existing knowledge and skills, or

Worksheet C, Adding new knowledge and skills

Next, state the learning objective for each continuing education need on each worksheet. Start with Worksheet A and locate existing objectives stated in the student text and instructor's manual of the appropriate module. State new objectives for the continuing education needs listed on Worksheets B and C.

WORKSHEET A FOR ACTIVITY 4

Stating Learning Objectives

Priority 1: Maintaining existing knowledge and skills

CONTINUING EDUCATION NEED	LEARNING OBJECTIVES

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WORKSHEET B FOR ACTIVITY 4

Stating Learning Objectives

Priority 2: Upgrading existing knowledge and skills

CONTINUING EDUCATION NEED	LEARNING OBJECTIVES

WORKSHEET C FOR ACTIVITY 4

Stating Learning Objectives

Priority 3: Adding new knowledge and skills

CONTINUING EDUCATION NEED	LEARNING OBJECTIVES

SECTION 5

Developing and Implementing the Instructional Program

PROGRAM MANAGER'S GUIDE

OBJECTIVES

After completing the activities in this section, you should be able to train supervisors to identify resources and methods for continuing education and to develop continuing education materials and learning activities.

To achieve these objectives, you must know:

1. How to determine the manpower, facilities, and material resources available for providing continuing education
2. How to determine which method of providing continuing education may be appropriate, direct instruction or distance instruction
3. How to develop continuing education materials and learning activities following the principles of competency-based training

ACTIVITIES

1. Identify resources and methods for continuing education.
2. Develop continuing education materials and learning activities.

RATIONALE

Once the supervisor has stated the learning objectives, he must determine the continuing education methods. He must identify the manpower, facility, and material resources available. Once he has identified these resources, he will be able to select appropriate continuing education methods.

If possible, continuing education should provide both distance instruction and direct instruction. Distance instruction can prepare the mid-level health worker for direct instruction, allowing the supervisor to use limited time efficiently in direct instruction.

Continuing education follows the same principles of competency-based training as the initial training of the mid-level health worker. The supervisor should use these guidelines from competency-based training when he develops continuing education materials:

Defining clear objectives before training begins

Informing the students of the training objectives

Providing learning opportunities that help the students acquire job-related knowledge and skills

Routinely evaluating and correcting the performance of each student until he perfects his knowledge and skills

The supervisor identifies the manpower and material resources he will need for the instructional program. He selects the most efficient methods for providing continuing education, taking advantage of existing resources. He makes sure that continuing education provides competency-based training.

PROGRAM MANAGER'S NOTE:

YOU AND YOUR STAFF CAN HELP THE SUPERVISOR TO FULFILL HIS RESPONSIBILITY FOR IDENTIFYING AND USING THE MOST APPROPRIATE METHODS TO MEET THE CONTINUING EDUCATION NEEDS OF MID-LEVEL HEALTH WORKERS.

5.1 IDENTIFYING MANPOWER, FACILITIES, AND MATERIAL RESOURCES AVAILABLE FOR USE

Once the supervisor has stated the learning objectives, he must identify people, facilities, and material resources available for use when providing continuing education to mid-level health workers. He must consider the following questions.

Who is available to provide continuing education?

What facilities and material resources are available to the continuing education program?

What methods may be appropriate and how much will they cost to use?

Before the supervisor can convert specific learning objectives into materials and methods, he must review available resources. The availability or lack of availability of resources will dictate how he will meet the continuing education needs of mid-level health workers.

Who Is Available to Provide Continuing Education?

a. Depending on the strategy the supervisor selects to meet continuing education needs, mid-level health workers, supervisors, and the program manager and his training staff are resource people who are immediately available. Mid-level health workers will be involved no matter what continuing education methods the supervisor selects. Because of their exposure to competency-based training and the variety of learning activities during their initial training, they have learned the advantages of being self-directed learners. Through distance instruction, the mid-level health worker can participate in self-instruction activities until the supervisor, program manager, or training program staff can make direct instruction available.

Mid-level health workers who are proficient in certain skills can be useful in assisting other mid-level health workers to maintain their knowledge and skills. This method works well when mid-level health workers have a two-way radio link between themselves and with the district hospital. It also works well when mid-level health workers live within reasonable travel distance of one another.

b. The supervisor is the most important resource person in any continuing education program. Without active participation by supervisors, a continuing education program will fail.

c. The program manager and his staff are valuable resource persons to the supervisor. They can assist the supervisor in identifying continuing education needs, stating learning objectives, and developing and delivering continuing education to mid-level health workers. The program manager and staff can assist the supervisor in planning, implementing, and evaluating district level, decentralized continuing education. When the program manager identifies the need for a regional or national continuing education workshop or seminar for mid-level health workers, he and his staff can take on the primary responsibilities for planning, implementing, and evaluating this level of activity. Supervisors are primary instructors during regional and national seminars.

d. Other possible resource people include members of the district level health team, such as the district health inspector and the public health nurse; and specialists such as the district pharmacist. Central level personnel from ministry of health departments such as immunizations, communicable disease control, environmental health, maternal and child health services, health education, patient care, drugs, and supply services are also possible resource people. These people can be very helpful, depending on the continuing education needs of mid-level health workers. The health education department can be particularly helpful in assisting the program manager and supervisor to develop continuing education materials. Other ministry representatives, such as rural development and agriculture officers, can also be resource people. The ministry of education may want to participate if school health is the continuing education topic.

   The supervisor should not overlook the health center team, patients, community health workers, and other community members as potential resource people for continuing education. Many health education needs are needs of the health team and not just of the mid-level health worker. If the need is to improve such things as scheduling work at the health center, improving patient flow at the health center, or other needs at this level, the health team obviously needs to be involved and can make a contribution. Patients are valuable resources for learning activities to be conducted with the mid-level health workers, as long as the patients are willing to participate and understand why the supervisor is asking them to participate. The community health worker, community leaders, and community members are resource people for continuing education at the community level.

Turn to Worksheet A for Activity 5 in this section and complete the "manpower resources" part of the table. You will complete the "continuing education methods" part of the table later in this section.

What Facilities and Material Resources Are Available to the Continuing Education Program?

The availability of appropriate facilities and material resources will dictate what continuing education methods the supervisor can use. The training program manager can help the supervisor review these considerations. Review Section 8 of the Training Process Manual. This section addresses "Managing the Training Program," including facilities, equipment and supplies, transportation, and material production. Suppose that a supervisor has twelve mid-level health workers who have ten continuing education needs in common. He has decided that having all twelve mid-level health workers come to the district hospital for a weekend continuing education seminar is the most efficient method for addressing their common continuing education needs. All ten continuing education needs concern management information systems. The mid-level health workers need to review how to correctly and completely fill out several types of forms and records. The supervisor has informed them of the types of documents and information they need to bring with them to the district. If he decides that he needs a classroom, he must consider location, size, comfort, furnishings, and learning aids and equipment.

He must also consider where the mid-level health workers will live and take their meals over the weekend. He must consider transportation to and from the district hospital. Can the health teams at each rural health center provide adequate coverage while the mid-level health workers are at the district hospital.

After taking all these points into consideration, the supervisor may change his mind. He may decide he does not have enough resources for the weekend seminar. Although he considers the method less desirable, he may send each mid-level health worker examples of all the forms and records, correctly and completely filled out, and send instructions with the examples. He can include appropriate references to the Health Center Operations manual, and a notation of how many copies of each form and record that he wants correctly and completely filled out by the time of his next visit. He may not be able to follow-up some mid-level health workers for a month to see how well they were able to complete this continuing education activity. An option would be to have the mid-level health workers send him their complete records and forms for him to review, critique, and send back to them before his next scheduled visit.

Cost in material production, time, transportation, and teaching aids is always a consideration. When maintaining existing knowledge and skills, the supervisor should not overlook the mid-level health worker's modules and reference manuals as the most useful and available resource materials. Communities and health centers are available as teaching locations, and facilitate the use of practical, continuing education.

Turn to Activity 5 for this section. Complete Worksheet B, listing available facilities and material resources.

5.2 SELECTING APPROPRIATE METHODS FOR MEETING CONTINUING EDUCATION NEEDS

Selecting appropriate methods for meeting continuing education needs is the next consideration of the supervisor and program manager.

Direct Instruction

Direct instruction, in which the mid-level health worker learns directly from his supervisor, is the most effective continuing education. The supervisor can use a variety of methods of direct instruction.

a. Individual instruction at the health center and in the community

The supervisor can provide individual instruction to the mid-level health worker during regularly scheduled visits. This is the most effective way to assure that the continuing education program is an ongoing program for meeting individual mid-level health worker's needs. The major disadvantage to this approach is the limited time the supervisor can spend with the mid-level health worker. When distance instruction precedes direct instruction, it prepares the mid-level health worker to review the continuing education topic with the supervisor upon his arrival. This combined instruction results in more efficient use of the time allotted for continuing education.

b. Health center seminars

One-day continuing education seminars at a health center can meet continuing education needs that are common to more than one mid-level health worker. They can also meet unique continuing education needs of mid-level health workers facing circumstances peculiar to a particular area, for example areas where pit latrine construction is impossible because of bedrock two feet below the top soil. One-day semi-

nars provide good opportunities to meet community health continuing education needs by conducting learning activities in rural communities. Distance instruction is useful to prepare the mid-level health workers for this type of seminar.

c. Individual instruction at the district hospital

Individual instruction at the district hospital has the same advantage as individual instruction at the health center. It can meet a mid-level health worker's particular need. The supervisor can allot more time to continuing education, and he can use district health team members as resource people.

d. District, regional, and national seminars

District, regional, and national seminars are methods of meeting both individual and group continuing education needs of mid-level health workers. Seminars at each of these levels have some advantages over other methods of providing direct instruction. But they should not replace on-going individual instruction at the health center. One major advantage of these seminars is an increase in the morale of the mid-level health workers. Former classmates have an opportunity to see each other and discuss similar experiences, problems, and innovations. The seminars provide an opportunity to introduce the latest revisions or improvements in the modules and reference manuals, to introduce new policies or issues that will affect all mid-level health workers, and to introduce new knowledge and skills to be added to the job. Individual mid-level health workers can make presentations about certain activities in which they have excelled. However, every mid-level health worker should have the opportunity to present a topic of interest to other participants, so that no one feels that he has been left out, or that the work he is doing is not important.

Regional and national seminars support and strengthen a district level, decentralized, continuing education program. The program manager should set aside time for district level health teams and mid-level health workers from that district to conduct their own continuing education activities. Encourage district representatives, such as supervisors, to present to the larger group of participants their continuing education strategies and activities.

The higher the level of seminar to be conducted, the more the demand for resources. The program manager and staff can provide instructors, learning materials, and activities that may not be easily accessible at the district or health center level.

Regional and national seminars also have another advantage. They

provide an opportunity to meet supervisors' continuing education needs. When planning a seminar at these levels, review the guidelines in the Checklist for Planning and Conducting a Workshop in Appendix A of the Training Process Manual.

Section 7 of the Training Process Manual discusses how to most effectively use active approaches to learning when using direct instruction for continuing education.

Distance Instruction

Distance instruction prepares mid-level health workers so that they can gain the most from direct instruction. Newsletters, self-instruction materials, two-way radio, and broadcasts from a radio station are examples of distance instruction.

a. Newsletters

The use of newsletters has been very popular in many primary health care programs. As instructional tools, newsletters have included short narrative discussions, case studies, and quizzes. The newsletter also provides another important service. It provides mid-level health workers with news. Newsletters can include activities to be conducted and issues to be addressed during the next scheduled supervisor's visit. Mid-level health workers have made contributions concerning interesting community health activities, how to effectively address health center management issues, and clinical case studies. The newsletter is a good method of distributing written policy statements that affect the work of the mid-level health worker. Mid-level health workers, supervisors, and training program managers can use the newsletter to share problems or concerns. The newsletter is a good and relatively inexpensive method of maintaining the morale of mid-level health workers. The instructional value of the newsletter is usually secondary to the morale value.

One person is usually responsible for producing and distributing a newsletter. But staff changes can affect the continuity of this method of distributing information.

b. Self-instruction material

Self-instruction material is another method of providing distance instruction. The mid-level health worker reviews the material and completes the learning activities on his own or with his health team. This material includes a pretest and posttest that the worker takes to measure his knowledge prior to and following his study of the materials. The worker can grade his own tests against an answer key. The text can include review questions. It can also include suggestions for review and

practice of such skills as delivering health messages, patient counseling, or other skills that the mid-level health worker should review. Self-instruction material is not always an appropriate method for introducing new patient care skills. It is a method of introducing skill checklists for new skills that do not involve direct patient care, such as a simple laboratory skill, ground preparation and planting of a kitchen garden, and new procedures to follow when using a two-way radio.

The modules and many of the learning activities are self-instruction materials for the mid-level health worker. Review of certain units in a module or the use of a reference manual can reinforce the importance of the mid-level health worker's use of existing resource materials.

Other self-instruction methods include thirty-five millimeter slides with a hand-held viewer and written narrative; a film strip and a battery powdered projection on a wall; hand-drawn pictures with accompanying written material; and photographs with narratives, such as brochures. The first examples, thirty-five millimeter slides and film strips, although popular, have not proven to be appropriate when working with limited resources. Hand-drawn pictures are always appropriate if the visuals really enhance the written material and thus the learning. Photographs with narratives in the form of brochures have produced good results in mass health message campaigns on nutrition and other topics of common interest. But for addressing the individual mid-level health worker's needs, this is an expensive approach. The media have to be produced at a central location. Distribution and use of existing material that will meet a continuing education need is the most appropriate method.

Audio material, such as cassette tape recordings with a written text, is another possible self-instruction method, if the necessary equipment and supplies are readily available.

c. Two-way radio

Two-way radio, although still costly, is a method of linking mid-level health workers in remote health centers with each other and with their supervisor. Many primary health care programs are using two-way radio, although maintenance equipment, fuel for generators, and efficient use of this method of communication still cause problems. Maintenance of radio equipment and proper use of the radio are often continuing education topics. The development and use of solar panels to power batteries is becoming more appropriate and less costly than gas-operated generators. Programs have used two-way radio in a variety of ways to provide distance instruction. One method, called "grand rounds," allows each mid-level health worker to discuss a parti-

cular problem with his supervisor while other mid-level health workers listen and offer suggestions. Supervisors have presented specific continuing education topics while all mid-level health workers listened and then responded individually.

Some programs have used radio broadcasts, letters, or newsletters to send mid-level health workers specific topics to be discussed or questions to be answered during two-way radio continuing education sessions. As with the newsletter, the interest in using two-way radio will vary with staff changes. Also, although two-way radio may provide a consultation or referral link with the supervisor, continuing education programs using this method frequently develop at the central and not the district level.

d. Broadcasts from a radio station

The use of broadcasts from a radio station to communicate health information varies considerably from country to country. If a broadcast to the general public covers a health topic that the mid-level health worker has become familiar with through another method, the worker will be encouraged to be at least as knowledgeable as the general public on the topic. The worker can follow-up radio broadcasts with interested community members. The mid-level health worker's ability to follow-up radio broadcasts most effectively often depends on other methods that gave the worker more detailed information.

Considerations for Choosing Methods for Continuing Education

Developing a sound and systematic continuing education program requires following the principles of competency-based training. Testing is one aspect of competency-based training that the supervisor must consider when he reviews different continuing education methods. He has already tested the mid-level health worker to determine his continuing education needs. This was the mid-level health worker's pretest. Knowledge and performance posttesting is also important. It determines if the continuing education has met the worker's needs. It demonstrates how well the continuing education method the supervisor selected worked. For example, one program used four methods to provide mid-level health workers continuing education on the topic of diarrhea, dehydration, and oral rehydration. These mid-level health workers received their training before the use of oral rehydration solution became accepted practice. Following the posttest, the supervisor took an informal survey of the workers to determine which method of continuing education they preferred.

MID-LEVEL HEALTH WORKER'S PREFERENCE OF METHOD	METHOD USED WITH MID-LEVEL HEALTH WORKERS	PERCENTAGE OF KNOWLEDGE-GAIN WHEN COMPARING PRETEST AND POSTTEST SCORES OF MID-LEVEL HEALTH WORKERS
1st preference	demonstration and skill practice	43% knowledge gain
2nd preference	newsletter	35% knowledge gain
3rd preference	self-instruction written material	48% knowledge gain
4th preference	35 mm slide presentation with written narrative	19% knowledge gain

In this example, all the mid-level health workers preferred demonstration of a skill by their supervisor and the opportunity to practice the skill with their supervisor. Although all mid-level health workers enjoyed this method and worked well with their hands and with people, the real reason they felt that this method was best was that it meant that the supervisor had to visit them to teach the skill. They enjoy visits by their supervisor, and their only regret was that their supervisor could not visit them as frequently as they would like. Although most mid-level health workers indicated that the self-instruction material was a better continuing education method, they listed this method after the newsletter method because they were afraid the program would discontinue the newsletter if they listed it after the self-instruction material. They admitted that the newsletter was their preference because of the content in the letter about what other mid-level health workers were doing, new health policies and issues, activities at the training program center, and other items.

So when reviewing methods for providing continuing education, appropriateness, as well as the educational soundness of the method, is important. But the preference of the mid-level health worker is also a consideration. Discarding a method that works well educationally but does not seem to be as acceptable to the worker as another method would be unwise. The worker's preference may have nothing to do with the educational effectiveness of the method.

Another guideline to consider is that the use of one method does not preclude the use of another method. The supervisor can start with the less difficult material and move toward the more difficult material, using a variety of methods of providing continuing education. The following

examples show the use of different approaches in a step-by-step process, moving from the simple to the complex.

The objective is to teach mid-level health workers to prepare oral rehydration fluid.

Using household utensils, teach a mother:

a. How to prevent diarrhea
b. When to give oral rehydration fluid
c. How to make oral rehydration fluid
d. How much oral rehydration fluid to give
e. When oral rehydration has been successful
f. When to seek additional help

First, the supervisor must convince mid-level health workers that giving children fluids by mouth is more appropriate, more effective, and less expensive than using intravenous fluids.

Example A

A supervisor has these resources:

A postal service that reaches all mid-level health workers in his area

A two-way radio link with all mid-level health workers in his area

A monthly radio broadcast with one-half hour devoted to health issues

Approximately twenty pages of material, including a newsletter, to send to each of his six mid-level health workers every two months

Time, transportation, fuel, and a driver so that he can visit each mid-level health worker once a month

He is luckier than most supervisors, because he has several options. If he decides to use all of them, he can use a variety of methods for providing continuing education, such as:

A short narrative about diarrhea, dehydration, and oral rehydration sent out with the newsletter, including a few review questions, a schedule of when he will contact the mid-level health worker by two-way radio to discuss questions, when the worker will receive a more detailed self-instruction unit, and when the local radio network will broadcast a health message about diarrhea, dehydration, and oral rehydration

A two-way radio conversation with each mid-level health worker, all listening discussion or individual discussion only, concerning questions resulting from the content of the newsletter and reviewing issues that he will address in the more detailed self-instruction material

A self-instruction packet sent to each mid-level health worker, including a time to contact the supervisor by two-way radio if the worker has further questions

The radio broadcast about health issues, including a fifteen minute or thirty minute discussion about diarrhea, dehydration, and oral rehydration solution, which the mid-level health worker invites community leaders to the health center to listen to or listens to at a community location, with a question and answer session between the mid-level health worker and other members of the audience following the broadcast

As scheduled, the supervisor arrives at the health center. He may have talked with the mid-level health worker or received correspondence from him concerning the issues raised following the radio broadcast. Upon his arrival he reviews issues and knowledge gain of the mid-level health worker on this topic. He demonstrates the skill. The mid-level health worker practices the skill until he is competent. If time allows, he observes the mid-level health worker teaching the same knowledge and skill to community health workers or mothers. He informs the worker that during his next visit he will interview the worker about applying the new knowledge and skill.

Example B

Another supervisor has very limited continuing education methods at his disposal. He sends out a periodic newsletter, and visits the mid-level health workers at their health center. But he has an additional option. All mid-level health workers come to the district hospital once a month to pick up their paychecks. The supervisor can send a newsletter with the basic information, and then use demonstration, practice, and teaching methods when he visits the mid-level health workers or when they come into the district hospital for their paychecks.

Example C

A third supervisor does not have any way to send the mid-level health workers any written material. He does not have two-way radio contact with them. The radio station is located in the national capital, and he does not have any access to this resource. He has no funds to bring the mid-level health workers in for a continuing education seminar. But he does make visits to each mid-level health worker regularly. Do not despair! On-site discussion, demonstration and practice, and demonstration by the mid-level health worker are the most sound educational techniques.

The supervisor can adapt any continuing education method to the reality of his situation.

Turn to Worksheet A for Activity 5 in this section and complete the "continuing education methods" part of the table.

5.3 THE CONTINUING EDUCATION INSTRUCTIONAL PROGRAM

The fourth step in the systematic approach to continuing education is the instructional program. Supervisors, program managers, and staffs of primary health care programs have used a variety of methods to provide continuing education to both mid-level health workers and their supervisors.

One program has used the students being trained as mid-level health workers as a resource when adding new skills and knowledge to the job of mid-level health workers. After the supervisors have developed the materials and learning activities with the training program manager, they practice using direct instruction with the students. Student critiques of the materials and learning activities provide the supervisors with valuable feedback. The training program manager and his staff provide similar critiques. The students' pretest and posttest scores, as well as their ability to master the necessary skills, also provide the supervisor with valuable feedback. This method gives the supervisors, training program manager, and staff the opportunity to make adjustments in the content and the learning activities before the supervisors use the materials in the continuing education program for mid-level health workers. This method also gives the supervisors an opportunity to improve their training skills.

The case studies in the student texts of the general clinical and maternal and child health modules evolved out of a continuing education program. Supervisors developed the case studies because they found the need to improve the quality of information mid-level health workers recorded on Patient Cards. The training program manager and staff converted the case studies used with the continuing education program into review exercises for mid-level health worker students. Other primary health care programs are now using this method. Two programs encourage mid-level health workers to submit case studies to the newsletters they publish and distribute.

Newsletters have become a popular method of providing distance instruction in many programs. In one Pacific island country, a district hospital pub-

lishes its own newsletter for distribution to all health professionals and the general public. The public is encouraged to make contributions to the news- Newsletters can include photographs or be very informal, as the example in Appendix E, written by the program manager and training staff, illustrates.

Two-way radio communication has been a useful method for providing distance instruction. In one Pacific island country, the supervisory mid-level health worker has a radio conference every Tuesday night. All of the mid-level health workers assigned to outer islands health centers come up on the radio at this time. They discuss any consultations about patients since the time of the last radio conference call. They discuss patients they have referred to the district hospital. They also discuss any patients that the district hospital is sending back to their island communities, but who will require follow-up. They review any management support issues. They report any changes in the scheduled visit of the field trip ship to the outer islands, with one of the other supervisors. The remainder of the discussion is on a specific continuing education topic. They conduct these discussions in English or the outer island languages that the supervisor and mid-level health workers speak. Periodically, one of the supervising physicians will present a special continuing education topic. Other members of the district health team participate as necessary, depending on the continuing education topic to be discussed.

Continuing education seminars at the district, regional, and national level have always been popular with the mid-level health workers. Such seminars can be as short as two days or as long as two weeks. The shorter seminars specifically address previously identified continuing education needs, using materials and learning activities developed to meet these needs. The long seminars do the same, but also afford the supervisors and the training program manager and his staff time to identify and meet additional continuing education needs common to all mid-level health workers. This is the time to plan district or health center continuing education for follow-up after the seminar. This is also a good opportunity to provide continuing education to supervisors. For example, some supervisors may need to improve their teaching skills. They can do this with the participation of mid-level health workers and with assistance from the training program manager and staff. Supervisors and the program manager have found mid-level health workers' written evaluations and verbal critiques of these seminars an important means of improving future seminars. Other members of the health center team participate in these seminars, as do representatives from the ministry of health. This participation encourages and promotes a team effort toward providing primary health care services and meeting the needs of the team and not just the needs of one individual team member.

Activity 5 for this section provides examples of materials that various programs have used with various methods of providing continuing education. The training program manager and staff can provide assistance to the supervisor who is developing continuing education materials and learning activities for his instructional program.

Activity 5 also includes examples of pretests and posttests for the accompanying material.

The supervisor should develop materials for both distance instruction and direct instruction. He can develop and distribute materials using distance instruction. Then he can develop materials for direct instruction. Supervisors should contact the program manager for current revisions of modules and reference manuals so they can use these materials to meet the continuing education needs of mid-level health workers.

ACTIVITY 5

Identifying Resources and Selecting Methods for Continuing Education

During this activity you will:

- Identify manpower, facilities, and material resources for providing continuing education
- Select methods for providing continuing education

The only materials required for this activity are any reference documents that help to identify manpower, facilities, and material resources available for use with the continuing education program.

Review the discussion in this section on Identifying Available Manpower, Facilities, and Material Resources and on Selecting Appropriate Methods for Meeting Continuing Education Needs. Use Worksheet A to identify available manpower resources and continuing education methods. Use Worksheet B to identify available facilities and material resources.

Several primary health care programs have used the following chart to identify manpower resources for the continuing education program.

MANPOWER RESOURCES Key: X = major responsibilities
O = minor responsibilities

CONTINUING EDUCATION METHODS	Supervising Physician	Supervising MLHW	District Health Inspector	District Public Health Nurse	Training Program Manager	Training Program Staff	Health Educator - MOH	Rural Development Officer	Rural Agriculture Officer	Communications Officer		
DIRECT INSTRUCTION Method: Individual Instruction at the Health Center												
Method: Health Center Seminars												
Method: Individual Instruction at the District Hospital												
Method: District Level Seminar												
Method: Regional Level Seminar												
Method: National Level Seminar												
DISTANCE INSTRUCTION Method: Newsletter												
Method: Self-Instruction Material, Written												
Method: Self-Instruction, Material, Written with Text Visuals												
Method: Self-Instruction Material, 35 mm Slides with Narrative												
Method: Self-Instruction Material, Filmstrip with Narrative												
Method: Self-Instruction Material, Audio Cassette Tape with Narrative												
Method: Two-Way Radio												
Method: Radio Broadcast												

WORKSHEET A FOR ACTIVITY 5

Identifying Resources and Selecting Methods for Continuing Education

CONTINUING EDUCATION METHODS	MANPOWER RESOURCES Key: X = major responsibilities O = minor responsibilities
DIRECT INSTRUCTION Method	
Method	
Method	
Method	
Method	
Method	
DISTANCE INSTRUCTION Method	
Method	
Method	
Method	
Method	
Method	

WORKSHEET B FOR ACTIVITY 5

Identifying Resources and Selecting Methods for Continuing Education

FACILITIES	MATERIAL RESOURCES

ACTIVITY 6

Developing Continuing Education Materials and Learning Activities

During this activity you will develop and use continuing education materials and learning activities based on:

- The stated learning objectives for meeting continuing education needs of mid-level health workers
- The manpower, facilities, and material resources available for continuing education

Review the worksheets completed for Activities 4 and 5. Then review the examples of methods for providing continuing education that accompany this activity. The examples include learning objectives, pretests, and posttests. The examples are organized as follows:

Topic: Oral Rehydration

- Learning objectives
- Pretest
- Pretest answers
- Posttest

Distance Instruction:

- Newsletter
- Self-instruction materials
- Radio broadcast

Direct Instruction:

- Teaching plan for supervisor

If the topic of oral rehydration is a continuing education need of your mid-level health workers, adapt the learning objectives to match those you stated in Activity 4. Adapt the content of the methods provided in the example to match your stated learning objectives. Adapt the pretest and posttest to reflect the changes you have made in the content.

If oral rehydration is not one of your continuing education topics, use these examples as guides for developing your own materials and learning activities.

Once you have developed the continuing education materials, use them to provide continuing education to mid-level health workers. Did the mid-level health workers' posttest scores show an improvement over their pretest scores? Can the mid-level health workers now perform at the

level of competence expected of them? Are the mid-level health workers more effectively meeting the health needs of the community as a result of this part of their on-going continuing education program?

ORAL REHYDRATION

ENTRY LEVEL KNOWLEDGE AND SKILL

Recognition of diarrhea and how it causes dehydration

LEARNING OBJECTIVES

1. To describe signs of dehydration
2. To prepare oral rehydration fluid
3. To teach a mother:
   - How to prevent diarrhea
   - When to give oral rehydration fluid
   - How to make oral rehydration fluid
   - How much oral rehydration fluid to give
   - When oral rehydration has been successful
   - When to seek additional help

PRETEST

The purpose of the pretest is to determine whether you need to participate in a continuing education program on oral rehydration. After you answer the questions, compare them with the answers on the next page. If you answered all the questions correctly, you already know how to provide the best possible care for children with diarrhea and dehydration.

1. How can you reduce the episodes of dehydration in children in the community?

2. Why does diarrhea cause dehydration in children?

3. List at least three things you can advise mothers to do to prevent diarrhea among children.

4. What would you advise mothers to do to prevent dehydration among children in the community?

5. What are the ingredients and amounts mothers need to make one liter of oral rehydration fluid?

6. When should a mother begin oral rehydration of her child?

PRETEST ANSWERS

1. How can you reduce the episodes of dehydration in children in the community?

   By teaching mothers how to care for children with diarrhea at home

2. Why does diarrhea cause dehydration in children?

   Diarrhea removes a large amount of water from a person's body. When a child with diarrhea loses a large part of his body's water he becomes dehydrated, or dries out. Dehydration occurs much faster in children.

3. List at least three things you can advise mothers to do to prevent diarrhea among children.

   Encourage mothers to breast-feed their infants until the infants are at least two years old.

   Encourage mothers to wash their hands and their children's hands after using the latrine and before eating.

   Encourage mothers to wash all fruits and vegetables before feeding them to their children, especially if the food is raw.

4. What would you advise mothers to do to prevent dehydration among children in the community?

   Advise mothers to give their children fluids when the children have diarrhea.

5. What are the ingredients and amounts mothers need to make one liter of oral rehydration fluid?

   1 liter (5 cups) boiled water

   1 two-finger pinch of salt

   1 two-finger pinch of bicarbonate of soda (if soda is not available, add another pinch of salt)

   2 fistfuls of sugar

6. When should a mother begin oral rehydration of her child?

   As soon as a child starts having diarrhea

POSTTEST

1. How can you reduce the episodes of dehydration in children in the community?

2. Why does diarrhea cause dehydration in children?

3. List at least three things you can advise mothers to do to prevent diarrhea among children.

4. What should you advise mothers to do to prevent dehydration among children in the community?

5. What are the ingredients and amounts mothers need to make one liter of oral rehydration fluid?

6. When should a mother begin oral rehydration of her child?

7. When should a mother stop giving the oral rehydration fluid?

8. How much oral rehydration fluid should a mother give to her child?

NEWSLETTER

The oral rehydration method of caring for diarrhea and preventing dehydration is a very important breakthrough in the care of diarrhea and dehydration. Diarrhea and dehydration are common causes of illness and death in children in the community.

The oral rehydration method replaces the lost water and salts in the body. Diarrhea causes a lot of fluid loss from the body. In children, the effect of fluid loss is quicker and more dramatic. In a short time a child with diarrhea will begin to get dehydrated. A child is more likely to become dehydrated than an adult. Oral rehydration has proven to be as effective as intravenous rehydration to prevent dehydration. In addition, oral rehydration has the following benefits:

It is safe
It costs little
It is readily available and can be made at home

Oral rehydration methods can be used in hospitals, health centers, and homes. Ideally, if mothers can make and give oral rehydration fluid in the home, they can prevent dehydration in most children in the community. Mothers are the first persons to know when their children have diarrhea. The earlier a child with diarrhea gets oral rehydration, the better the chances of preventing dehydration.

To make oral rehydration fluid at home a mother needs:

1 liter (about 5 cups) of clean water

1 two-finger pinch of salt

1 two-finger pinch of bicarbonate of soda (if soda is not available, use two pinches of salt instead of one)

2 fistfuls of sugar

Here is how you can teach mothers to make the oral rehydration fluid at home. Call the oral rehydration fluid "special mixture" so the mother remembers. Tell the mother to wash her hands with soap and water. Then give her the following instructions.

Boil one liter of clean water in a clean pot.

Let the water cool.

While the water is cooling, add one two-finger pinch of salt.

Add one two-finger pinch of bicarbonate of soda.

Add two fistfuls of sugar.

Let the solution cool to room temperature.

Pour the fluid into a clean cup.

Feed the child with a clean spoon.

Teach the mother to give her child one cup of oral rehydration fluid for every loose stool.

Teach the mother to continue to feed her child. Tell her to give her child the oral rehydration fluid between breast-feedings or other meals.

Teach the mother to start giving her child oral rehydration fluid when diarrhea starts. Tell the mother to take her child to the health center:

If the diarrhea has not stopped in two days

If the child begins vomiting severely

If the diarrhea becomes worse or the child becomes unconscious

Tell the mother she can stop giving oral rehydration fluid to her child when the child stops having diarrhea.

Teaching mothers how to prepare and give oral rehydration to their children will prevent dehydration in children in the community. Diarrhea causes dehydration. You should also teach mothers how to prevent diarrhea in children. Here are some things you can do to prevent diarrhea in the community.

a. Encourage mothers to breast-feed their infants until the infants are at least two years old.
b. Convince mothers never to use a feeding bottle.
c. Encourage mothers to boil all the water they give to their infants.
d. Encourage families to build and use latrines and to keep their houses clean.
e. Encourage mothers to wash their hands and their children's hands after using the latrine and before eating.
f. Encourage families to feed their children well.

SELF INSTRUCTION MATERIALS

INTRODUCTION

Diarrhea and dehydration are common problems in the community. You frequently care for children with diarrhea and dehydration in the health center. Many children return with the same problems. The purpose of this continuing education program is to review the use of oral rehydration fluid and discuss ways of decreasing the amount of dehydration in the community.

Because diarrhea is a fairly common problem, parents wait until their child is quite dehydrated before they bring the child to the health center. You must provide adequate care for the ill child at the health center, but you can reduce dehydration in the community by teaching mothers to care for children with diarrhea at home and before they become dehydrated.

Diarrhea causes a lot of fluid loss from the body. In children, the effect of

fluid loss is quicker and more dramatic. In a short time a child with diarrhea will begin to get dehydrated.

Without fluid replacement, the child becomes progressively more dehydrated. Immediate fluid replacement will help to prevent the child from becoming dehydrated. Dehydration causes most deaths associated with diarrhea. You can prevent these deaths from dehydration by doing these things:

Preventing diarrhea, and therefore dehydration, especially in children

Caring for diarrhea and preventing dehydration

Teaching mothers to give oral fluids to their children when the children have diarrhea

PREVENTING DIARRHEA

The most important causes of diarrhea are poor nutrition, weaning, bottle feeding, unclean living conditions, and other illnesses. You can help parents prevent diarrhea in their children by explaining each of these causes.

You can help prevent diarrhea in children by following these suggestions.

a. Encourage mothers to breast-feed their infants until the infants are at least two years old.
b. Convince mothers never to use a feeding bottle.
c. Encourage mothers to boil all the water they give their infants.
d. Encourage mothers to wash their hands and their children's hands after using the latrine and before eating.
e. Encourage mothers to wash all fruits and vegetables before feeding them to their children, especially if the food is raw.
f. Encourage families to build and use latrines and keep their houses clean.
g. Encourage families to feed their children well.

CARING FOR DIARRHEA AND PREVENTING DEHYDRATION

Diarrhea is most dangerous in children less than six years old. A child is much more likely to become dehydrated than an adult.

Oral rehydration can prevent dehydration in children and adults. You can care for a dehydrated child with oral rehydration fluid made with water, salt, soda, and sugar. Care of dehydrated children using oral rehydration fluids has proven to be as effective as intravenous rehydration. In addition, oral rehydration has the following benefits:

It is safe

It costs little

It is readily available and can be made at home

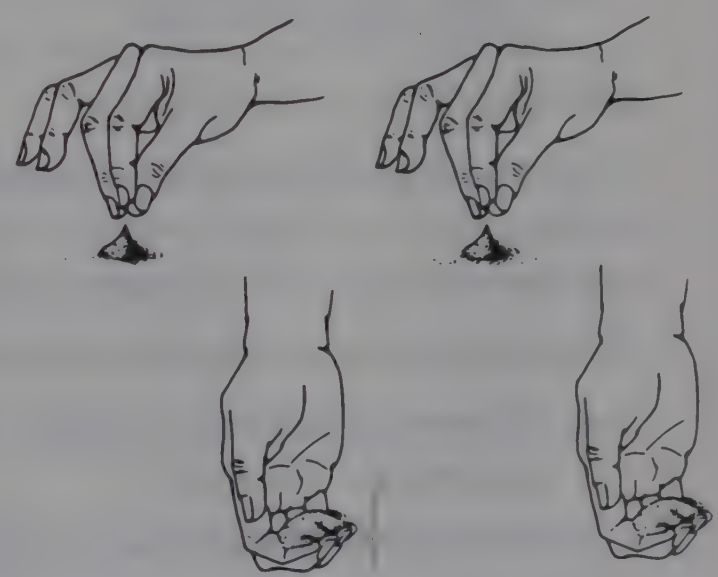
If a child is dehydrated but conscious and is not vomiting severely, oral rehydration is the first choice of care, even at the health center.

PREPARING ORAL REHYDRATION FLUID

Wash your hands with soap and water.

Boil one liter (about five cups) of clean water. Let the water cool.

While the water is cooling, stir one two-finger pinch of salt, one two-finger pinch of bicarbonate of soda, and two fistfuls of sugar into the boiled water. If soda is not available, use two pinches of salt instead of one.



Let the solution cool to room temperature.

Feed the oral rehydration fluid to the dehydrated child.

TEACHING MOTHERS TO GIVE ORAL FLUIDS TO THEIR CHILDREN

Before you teach a mother about oral rehydration, give the child oral rehydration fluid. A mother is anxious about her sick child, and will not learn anything until you care for her child.

When you teach a mother about oral rehydration, call it "special mixture" for diarrhea, so the mother can easily remember the name. When a child gets diarrhea, the first person to know it is usually the mother. By teaching mothers about oral rehydration you can prevent dehydration among children in the community.

The mother needs to know:

- When to give the special mixture
- How to make the special mixture
- How much special mixture to give
- When to stop giving the special mixture
- When to seek additional help

When to Give the Special Mixture

When the child has diarrhea, the mother should give the child fluids. When the child has more than three loose stools in a day, the mother should give the child the special mixture.

How to Make the Special Mixture

Tell the mother what supplies she needs to make the mixture. She needs: soap, clean water, a clean pot, salt, soda, sugar, a cup, and a spoon. Show the mother how to make the special mixture. Use supplies that the mother would have in her home. Ask the mother to make the special mixture. Make sure that the mother does all the steps properly.

How Much Special Mixture to Give

A mother should give her child a cup of the special mixture for every stool that her child passes. The mother should continue to breast-feed her child. The child with diarrhea needs food to get better. The mother should feed her child the meals he usually eats. She should give the oral rehydration fluid between meals.

When to Stop Giving the Special Mixture

When a mother gives her child oral rehydration fluid, the child begins to get better. The mother can stop giving oral rehydration fluid to her child when his diarrhea stops. A child is no longer dehydrated when he starts urinating often.

When to Seek Additional Help

If the child's diarrhea does not stop in two days, the mother should take her child to the health center. If the child's diarrhea becomes worse, the mother should take him to the health center immediately. A mother should take her child to the health center if he begins vomiting severely, develops a high fever, or becomes unconscious.

The following are examples of review questions for use as a part of self instruction materials.

1. Explain why oral rehydration may be necessary for children with diarrhea.

   Diarrhea causes a lot of fluid loss from the body. In children the effect of fluid loss is quicker and more dramatic. In a short time, a child with diarrhea will begin to get dehydrated. Without fluid replacement, the child will become progressively more dehydrated. However, immediate fluid replacement will help to prevent the child from becoming dehydrated. Oral rehydration is one way of replacing fluids.

2. Name three things you can do to prevent the death of children from dehydration.

   Prevent diarrhea, and therefore dehydration

   Care for diarrhea and prevent dehydration

   Teach mothers to give fluids orally to their children who have diarrhea

3. What are the most important causes of diarrhea?

   The most important causes of diarrhea are poor nutrition, weaning, bottle-feeding, unclean living conditions, and other illnesses.

4. Explain at least five ways you can help prevent diarrhea in children.

   a. *Encourage mothers to breast-feed their infants until the infants are at least two years old.*
   b. *Convince mothers never to use a feeding bottle.*
   c. *Encourage mothers to boil all the water they give their infants.*
   d. *Encourage mothers to wash their hands and their children's hands after using the latrine and before eating.*
   e. *Encourage mothers to wash all fruits and vegetables before feeding them to their children, especially if the food is raw.*
   f. *Encourage families to build and use latrines and keep their houses clean.*
   g. *Encourage families to feed their children well.*

5. Describe some of the benefits of using oral rehydration.

   It is safe.

   It costs little.

   It is readily available and can be made at home.

6. TRUE (T) or FALSE (F)

   F If a child is dehydrated but conscious and is not vomiting severely, intravenous rehydration is the first choice of care at the health center.

7. Describe how to prepare oral rehydration fluid.

   a. *Wash your hands with soap and water*
   b. *Boil one liter (about five cups) of clean water. Let the water cool.*

c. *While the water is cooling, stir one two-finger pinch of salt, one two-finger pinch of bicarbonate of soda, and two fistfuls of sugar into the boiled water. If soda is not available, use two pinches of salt instead of one.*

d. *Let the solution cool to room temperature.*

e. *Feed the oral rehydration fluid to the dehydrated child.*

8. Why should you give a sick child oral rehydration fluid before teaching the child's mother about this special mixture?

   A mother is anxious about her sick child and will not learn anything until you care for her child.

9. TRUE (T) or FALSE (F)

   T When her child has more than three loose stools in a day, a mother should give the child oral rehydration fluid.

10. How much special mixture should a mother give her child who has diarrhea?

    A mother should give her child a cup of the special mixture for every stool that her child passes.

RADIO BROADCAST

Narrator: Today we are going to discuss oral rehydration. This broadcast is especially for the continuing education of mid-level health workers in the field. Doctor, please begin by telling us why you have chosen the subject of oral rehydration.

Doctor: Oral rehydration, or giving fluids to a child who has diarrhea, can save the lives of many young children in the community. Oral rehydration is a very important breakthrough in the care of diarrhea, one of the most common causes of illness and death among children. Oral rehydration, or giving fluids to a child by mouth when he has diarrhea, can prevent the child from getting dehydration or drying up. Most children die because they dry up with diarrhea.

Narrator: Why does this happen, Doctor?

Doctor: Children lose a lot of water when they have diarrhea. When a child loses water with diarrhea, he dries up much faster than adults.

Narrator: Doctor, wouldn't preventing the child from getting diarrhea be a better idea? If the child does not get diarrhea, then he will not dry up.

Doctor: That is very true. Parents can prevent diarrhea in children. But even with all the care, children still get diarrhea. So when a child gets diarrhea, preventing the danger of the child's drying up is most important. Children also lose a lot of water when they vomit. So this idea of giving fluids to the child is also good when the child is vomiting.

As you said, the less the child has diarrhea, the better. So here are some things that our mid-level health workers can do to prevent diarrhea.

Encourage mothers to breast-feed babies until the children are two years old.

Encourage mothers to boil all the water they give to babies.

Encourage mothers to wash their hands and their children's hands after using the latrine and before feeding or eating.

Encourage families to build and use latrines and keep their houses clean.

These are some of the ways to prevent diarrhea. If children eat enough good food, they have diarrhea less often.

Narrator: Doctor, you were telling us about giving children fluids by mouth. What kinds of fluids should mid-level health workers teach parents to give, and when and how should the parents give the fluids?

Doctor: The mid-level health worker should teach a mother to give to her child water and other fluids as soon as the child has loose stools. If the child has three or more loose stools in a day then the mother can make a special mixture for the child. This mixture is also for adults who have diarrhea. Remember, whether you give water, other fluids, or this special mixture, give the child at least one

cup of fluid for every loose stool.

(Enter mother with a sick child)

Narrator: Now we have a mother, Mrs. Leetam, and her child, Neema, who is three years old and has diarrhea. They are going to join us for this broadcast.

Doctor: Mrs. Leetam, could you tell us what is wrong with your daughter, Neema?

Mrs. Leetam: Doctor, my Neema has been sick this week. She has been passing loose stools seven to eight times every day. At first she was thirsty, but now she seems to sleep most of the time. When she is not asleep, she cries.

Doctor: Mrs. Leetam, you said that at first she was thirsty. Did you give Neema something to drink?

Mrs. Leetam: Oh, no, Doctor! Everybody knows that the baby will get worse if you give her water or food when she is passing loose stools.

Doctor: But you said Neema was thirsty. Her body needs water and fluids. She is losing very much water and fluids from her body with the loose stools. Without water, Neema's body has become dry. If you do not give her water or fluids she will dry up more and become very ill.

Mrs. Leetam: Doctor, you mean I should give Neema water and fluids when she has loose stools?

Doctor: If you do that, Neema would not dry up. Let me show you how to make a special mixture for Neema. This special mixture will make Neema better and stop her from drying up.

Here is how you make this special mixture to prevent children from drying up or getting dehydrated. I hope our listeners have a pencil and paper ready to write down how to make this special mixture.

To make the special mixture you need a clean pot, one liter of water, salt, bicarbonate of soda, sugar, and a clean cup and spoon to feed child.

To make the mixture you do the following.

Step 1: Boil one liter of clean water. Let the water cool.

Step 2: While the water is cooling, stir in one two-finger pinch of salt. Add one two-finger pinch of soda. If you do not have soda, add another pinch of salt. Also add two fistfuls of sugar.

Step 3: Let the mixture cool. When the mixture is cool, use a clean cup and spoon to feed the mixture to the child.

It is as simple as that. Mrs. Leetam, do you like the taste of the mixture?

Mrs. Leetam: Yes, this mixture tastes good. Let me see if Neema likes it too. Doctor, Neema also seems to like the mixture. How much mixture should I give Neema?

Doctor: Neema needs to drink a cup of this mixture for every loose stool she passes.

Mrs. Leetam: When do I stop giving the mixture to Neema?

Doctor: You can stop giving the mixture to Neema when she stops passing loose stools. Now let's see if you can remember how to make the special mixture.

Mrs. Leetam: Well, you showed me how to make the mixture. First I boil one liter of water, about five cups. While the water is cooling I add one two-finger pinch of salt, like this, with my thumb and first finger. I do not have soda in my home, so I add another pinch of salt. And then I add two fistfuls of sugar, and stir the mixture. When the mixture is cool, I feed my Neema with a clean cup and spoon.

Doctor: That was very good. Do you have any other questions?

Mrs. Leetam: Yes, do I continue to give Neema food while she is taking this mixture?

Doctor: You should give Neema her meals. Feed her the mixture between meals. Mothers who breast-feed should continue to breast-feed their children. The child needs food to get better.

Mrs. Leetam: Thank you, Doctor, for telling us this simple way to take care of our children. This seems like a good way to stop children from getting dry when they get loose stools.

Doctor: Thank you, Mrs. Leetam, for joining us. I hope Neema

will be better soon. Next time, do not forget to give her fluids when she has loose stools. Then she will not get sick like this.

Narrator: Mrs. Leetam, thank you for being with us. Doctor, thank you for sharing this breakthrough in the care of diarrhea. I hope our listeners will write to us and let us know how useful this information has been. Doctor, would you like to give one last bit of advice to our listeners?

Doctor: Yes. A cup of fluids for every loose stool will save many lives!

Narrator: Thank you again, Doctor. We will be back on the air next week at the same time for our next show, "Doctor on the Air." Thank you for listening.

TEACHING PLAN FOR SUPERVISORS

OBJECTIVES
1. To describe ways to prevent diarrhea in the community
2. To train mid-level health workers to use oral rehydration fluid to care for diarrhea among children
3. To train mid-level health workers how to prepare oral rehydration fluid
4. To train mid-level health workers to teach a mother how to prepare oral rehydration fluid and how to give the fluid to a child with diarrhea

METHODS Demonstrations, discussions

MATERIALS Clean water, pot, salt, sugar, bicarbonate of soda, cooking fire, cup, spoon, soap. Use materials available in homes in the area.

PREPARATION Collect necessary materials for demonstration. Locate a cooking area in the health center or in the community. Notify the mid-level health worker and ask the health center team to invite parents for the demonstration.

TIME:

LEARNING ACTIVITIES

1. Discuss with the mid-level health worker and health center team the causes of diarrhea in the community and ways to prevent diarrhea in the community.
2. Demonstrate to the mid-level health worker and to the health center team how to make oral rehydration fluid. Allow the mid-level health worker and health center team to take part in the discussion.
3. Ask the mid-level health worker and health center team to demonstrate how to make oral rehydration fluid.
4. Demonstrate to parents how to make oral rehydration fluid. Allow parents to take part in the demonstration. Ask some parents to demonstrate how to make oral rehydration fluid.
5. Discuss with parents ways to prevent diarrhea in the community.

6. Discuss with the mid-level health worker and health center team the importance of oral rehydration and teaching parents to prepare oral rehydration fluid in homes.

   Discussion Points:

   a. Oral rehydration is preferable to intravenous methods because IVs are not available in homes, and rehydration begins later, so the child's dehydration worsens before he gets help.

      IVs are in short supply at the health center, so the health center team should save them for essential cases.

      IVs sometimes are difficult to get started.

      Oral rehydration is as effective as IVs. Use IVs only if a child is vomiting, unconscious, or severely dehydrated.

   b. People in the community believe that giving fluids by mouth increases diarrhea. Health center team members should teach people in the community how diarrhea causes the body to lose a lot of water. That is why children dry up and die in the community. Oral rehydration is the safest and easiest method to prevent further illness and death of children with diarrhea.

   c. Do not use drugs to stop diarrhea. Recent information has pointed out that drugs only give a false sense of treatment. The main danger from diarrhea is dehydration. Therefore, providing adequate rehydration is more important than using drugs that have no effect.

   d. Children should continue to eat their meals when they have diarrhea. Diarrhea makes the body lose many nutrients. Children need food to recover from the illness. Mothers should continue to breast-feed their children. They should continue to give children their meals. Mothers can give oral rehydration fluid between breast-feedings or meals. Mothers should give their children soft food and breast milk. They should give the children boiled water and food without spices.

SECTION 6

Evaluating the Continuing Education Program

PROGRAM MANAGER'S GUIDE

OBJECTIVES

After completing this section, you should be able to train supervisors to evaluate the continuing education program.

ACTIVITY

Evaluate the continuing education program by completing the Continuing Education Evaluation Form.

RATIONALE

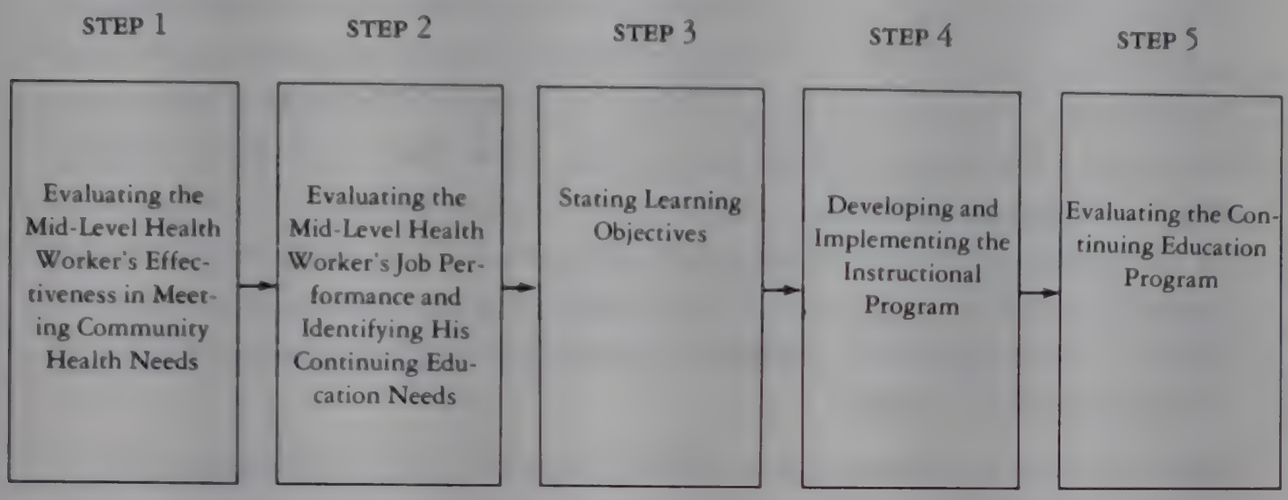
The supervisor must be able to evaluate whether the continuing education instructional program is meeting the needs of the mid-level health worker. As in competency-based training, the continuing education program routinely evaluates and corrects the performance of each mid-level health worker so that he can maintain existing knowledge and skills or perfect new knowledge and skills. The evaluation requirement is a very important part of any continuing education program.

PROGRAM MANAGER'S NOTE:

THE ULTIMATE EVALUATION OF CONTINUING EDUCATION IS TO DETERMINE WHETHER IT IS HELPING THE MID-LEVEL HEALTH WORKER MEET THE HEALTH NEEDS OF THE COMMUNITY.

6.1 EVALUATION

Evaluation of the continuing education program is the last of the five steps for a systematic approach to continuing education. What the supervisor evaluates is the program's ability to meet the continuing education needs of the mid-level health workers.



The same principles of evaluation apply to continuing education as to the initial training of the mid-level health worker. How and when the supervisor applies these principles will depend upon the methods for providing continuing education. The supervisor must base the evaluation upon the performance of the mid-level health worker. Thus, on an individual basis, he may have to communicate with the worker via two-way radio or in writing to meet the worker's need for continuing education. But he can evaluate the worker's performance only through observation of adequate practice when he visits the health center and community the worker serves.

The initial training of the mid-level health worker was centralized during the module phase and decentralized during the community phase. The program manager had primary responsibility for quality control of the evaluation. Much of the continuing education program is decentralized. Many supervisors will be involved in evaluating the continuing education of their workers. The program manager can assist the supervisors to assure that they are applying sound principles of education evaluation, but only if the supervisors request such assistance. The program manager can use the information the supervisors gather to evaluate the graduate's progress, the effectiveness of the supervisor's instruction, the teaching methods, and the compatibility of the continuing education program learning objectives and community health needs. This evaluation completes the first cycle of the

continuing education program. What the supervisor finds out feeds back into the program design for the new classes of mid-level health workers and for the on-going continuing education program.

This type of information is very important to the program manager. Without exception, curriculum for training mid-level health workers in primary health care programs around the world continues to evolve and improve through this process. The major changes and revision in the curriculum take place following the training of the first two classes of mid-level health workers. Workers discover that some health problems thought to be common in rural areas are not so common. The programs delete these problems from the curriculum. Workers find other health problems to be more common than previously expected, and the programs add these problems to the curriculum. Programs delete some skills from the curriculum and add others. One program that had a Laboratory Module deleted the module from the curriculum because the necessary laboratory equipment never became available. Another program added a module for use and maintenance of a two-way radio when this method of communication became available to mid-level health workers.

Mid-level health workers report to their supervisors on which learning activities during their initial training best prepared them to perform their new job, and which did not. This type of information helps the supervisor plan the learning activities he is going to use with his continuing education program. This information helps the program manager redesign learning experiences to make the initial training of the mid-level health workers more meaningful and useful. The continuing education program provides a way to develop, implement, and evaluate new and improved methods of instruction and learning activities. The feedback the supervisor receives concerning these innovations helps to strengthen the continuing education program.

The mid-level health worker's ability to meet community health needs by applying new knowledge to solve problems and by demonstrating acceptable skill performance is the ultimate evaluation of the continuing education program. The conscientious supervisor will keep the Certification Log for Mid-Level Health Workers updated with new skills that he has added to the worker's responsibilities.

The supervisor will encourage the mid-level health worker to use his modules and manuals as work references. The supervisor will keep the mid-level health worker apprised of his work performance and of methods to meet his continuing education needs.

Good communication and cooperation between supervisor and program manager will minimize many future continuing education needs that could

result from oversights in the initial training of mid-level health workers, allowing more time for maintaining knowledge and skills through the continuing education program. The evaluation of the mid-level health worker's effectiveness in meeting previously identified community health needs is the evaluation of continuing education, competency-based training, and the overall primary health care program.

ACTIVITY 7

Evaluating the Continuing Education Program

During this activity, you will encourage the continuing education program. You will evaluate the student's knowledge and skill prior to and following the presentation of a continuing education topic. You will evaluate the activities used to assist the mid-level health worker to meet the learning objectives. You will determine whether the mid-level health worker met the learning objectives and whether the worker is now meeting community health needs because of continuing education.

Note changes made in the curriculum for the initial training of mid-level health worker candidates as a result of the continuing education program. Such changes will include adding or deleting tasks, duties, skills, knowledge, problems, and learning activities. Make your notations on the Continuing Education Evaluation Form. Complete a separate form for each continuing education topic for each mid-level health worker.

CONTINUING EDUCATION EVALUATION FORM

Name of Evaluator (Program Manager, Supervisor, Instructor): _____

Name of Mid-Level Health Worker: _____

Date: _____ Continuing Education Topic: _____

1. Check any of the following methods you used to evaluate the mid-level health worker prior to and following continuing education.

	PRETEST			POSTTEST	
____	Oral report, interview		____	Oral report, interview	
____	Written reports, questionnaires Note type: _____ _____		____	Written reports, questionnaires Note type: _____ _____	
____	Performance observation Note criteria used (skill checklist, patient care procedures, etc.) _____ _____		____	Performance observation Note criteria used (skill checklist, patient care procedures, etc.) _____ _____	
____	Oral test	Score: ____	____	Oral test	Score: ____
____	Written test	Score: ____	____	Written test	Score: ____
____	Performance test	Rating: ____	____	Performance test	Rating: ____

2. Did the mid-level health worker meet the learning objectives of the continuing education topic? If you check "no" for an objective, how do you plan to assure that the worker will meet the objective?

YES	NO	PLAN FOR MEETING OBJECTIVE, IF YOU CHECKED "NO"
____ Objective A	____ Objective A	_____
____ Objective B	____ Objective B	_____
____ Objective C	____ Objective C	_____

3. What continuing education methods and learning activities did you use? Did you or the mid-level health worker judge them to be "good" or "poor"? Why?

METHODS, LEARNING ACTIVITIES	GOOD	POOR	WHY
_____	____	____	_____
_____	____	____	_____
_____	____	____	_____

4. If the continuing education program was to maintain the mid-level health worker's present performance in meeting community health needs, did it achieve this objective? If it was to improve the worker's ability to meet community health needs, did it achieve this objective? Please note your comments.

5. As a result of your continuing education program, what have you added, deleted, or revised in the curriculum for the initial training of mid-level health workers? Your notations should include anything that has affected the content of the curriculum, including the changes in tasks, duties, knowledge, skills, diseases, learning activities, duration of training, and criteria for candidate selection.

6. Have you identified any of your own continuing education needs, or those of other members of the district health team or health center team, including community health workers? If so, who has a need? What is the need? What is your plan?

PERSON	CONTINUING EDUCATION NEED	PLAN

7. Do you need to make any adjustments in your systematic approach to planning, implementing, and evaluating your continuing education program? If so, what have you done or what do you need to do?

APPENDIX A

NURSE CLINICIAN CONTINUING EDUCATION LAW

The following is an example of the continuing education policy for mid-level health workers. In this example the mid-level health worker is called a Nurse Clinician. By law, the Nurse Clinician is required to receive continuing education.

Nurse Clinician Continuing Education Law

> The Nursing Council shall prescribe the minimum amount of continuing education required for retention of the Nurse Clinician's name on the register of Nurse Clinicians. Continuing education shall be acceptable only as provided by sources approved for this purpose by the Nursing Council. The Nursing Council shall establish or at least approve procedures for the demonstration of continuing competence in the functions to be performed, as well as in additional functions as competence in these shall be achieved.

With experience, the Primary Health Care Program Staff determined that the Nurse Clinician Continuing Education Law needed to be made more specific to strengthen the continuing education program. They adopted the following regulations.

Regulations Governing Continuing Education of Nurse Clinicians

> Continuing education is required by law for Nurse Clinicians. Continuing education is defined as the ongoing process of evaluating and maintaining at an acceptable standard the skills and knowledge of the Nurse Clinician.
>
> Continuing education requires the supervisor to monitor the performance of the Nurse Clinician during monthly visits to the health center, and to illustrate on-the-spot correction.
>
> Continuing education requires the supervisor to fill out a performance evaluation list every four months, and to submit the list to the Principle Nursing Officer in charge of the Nurse Clinicians.
>
> Continuing education requires periodic in-service training sessions conducted at the sub-district hospital or at another designated center covering in greater depth topics related to the everyday practice of Nurse Clinicians. The Primary Health Care Program Staff will provide guidance to the directors of these periodic sessions and will be available to give any necessary support. At the completion of these sessions, the directors must submit to the Principle Nurse Office for

Nurse Clinicians a report on the performance of each Nurse Clinician attending the session.

At the end of the year, the Principle Nursing Officer for Nurse Clinicians will examine the various reports on the continuing education program, decide whether these training sessions have complied with the regulations, and recommend whether the Nurse Clinician is eligible for re-registration.

Should the Nurse Clinician fail to complete the requirements for continuing education and re-registration, she will be allowed no more than three months to fulfill the requirements. Failure to comply with this deadline will result in the Nurse Clinician's not being eligible for re-registration, unless she submits to a formal evaluation by the Primary Health Center Program Staff to find out at what level she is performing her work responsibilities.

Before implementing the regulations, the program manager and staff reviewed them with the Principle Nursing Officer, supervisors, and mid-level health workers. The language concerning the possibility of the mid-level health worker's not being re-registered seems strong. But, the intent was to assure that Nurse Clinicians receive the continuing education they need and deserve. The Nurse Clinicians agreed completely with the policy and the regulations.

The following example is a form that the director must submit to verify that the Nurse Clinician has met her continuing education requirements.

CONTINUING EDUCATION CHECKLIST

NAME _____

DATE OF GRADUATION _____

GRADUATE OF CLASS _____

		EXCELLENT	SATISFACTORY	UNSATISFACTORY
MONTHLY QUESTIONNAIRE ANSWERED	1.			
	2.			
	3.			
	4.			
	5.			
	6.			
	7.			
	8.			
	9.			
	10.			
	11.			
	12.			
QUARTERLY REPORTS FROM SUPERVISOR SUBMITTED	1.			
	2.			
	3.			
	4.			
PERIODIC CONTINUING EDUCATION SEMINARS; IN-SERVICE TRAINING				

I hereby certify that the above mentioned Nurse Clinician has satisfied all the requirements for Continuing Education, and I recommend that she be re-registered as a Nurse Clinician under the Nursing Council regulations.

02113

PHC-100

_____

Principle Nursing Officer for
Nurse Clinicians

Ministry of Health

APPENDIX B

The program manager and supervisors in a primary health care program sent this questionnaire with a newsletter to mid-level health workers. The questionnaire helps the training staff planning a continuing education seminar to identify the continuing education needs for both the mid-level health worker and the supervisor.

CONTINUING EDUCATION QUESTIONNAIRE—SUPPORT

Since your graduation, your supervisor, the program manager, and other members of the primary health care program staff have visited you. When answering the following questions, think about what has been good and what could be improved during these visits. Address your responses to the supervisor, program manager, or other primary health care program staff member. Use the back of this form for additional comments.

1. Are you getting the kind of support you want during these visits?
   ( ) Yes ( ) No

2. If you checked NO, please explain. Suggest ways to improve the support.

3. Does this support include continuing education?
   ( ) Yes ( ) No

4. If you checked NO, please explain.

5. Do you consider continuing education to be important? Please explain your answer.

6. Do you look forward to your supervisor's visits to your health center and the communities you serve? Please explain your answer.

7. Should your supervisor visit you more often at your health center or in the communities you serve? Please explain your answer.

8. What does the person visiting you do during these visits?

9. Should he be doing something else during these visits?

10. Rate the following continuing education methods. Use the scale of 1 to 5. A rating of 1 means the method was not useful. A rating of 5 means the method was very useful. Next to each method explain why you rated the method the way you did, and give any suggestions you may have.

Newsletter or other written material received in the mail	___1 ___2 ___3 ___4 ___5
Discussions with supervisor or other health team members	___1 ___2 ___3 ___4 ___5
Review with supervisor of records, forms, or other documents	___1 ___2 ___3 ___4 ___5
Supervisor's demonstrations of how to use and apply knowledge and skills	___1 ___2 ___3 ___4 ___5
Two-way radio communications or radio broadcasts	___1 ___2 ___3 ___4 ___5
District, regional, or national continuing education workshop or seminar	___1 ___2 ___3 ___4 ___5

11. What do you want to learn or what skills do you want to improve during the August Continuing Education Seminar? Why?

Use the back of this form for additional comments.

Signature _____

CONTINUING EDUCATION QUESTIONNAIRE FOR MID-LEVEL HEALTH WORKERS CONCERNING COMMUNITY HEALTH WORKERS' ACTIVITIES

The following questions are designed to assist your supervisor and the training program manager and staff in identifying any continuing education needs you may have concerning the training and support of community health workers.

1. Do you have any continuing education needs concerning how you approach a community to discuss the selection and training of community health workers?

   ( ) Yes ( ) No

2. Check the following topics you have taught community health workers. In the blank space, note any topic in which you need to improve your skill in training community health workers.

   Clean water and clean community ( ) _____

   Prevention and care of diarrhea ( ) _____

   Healthy pregnancy ( ) _____

   Some common health problems ( ) _____

   Tuberculosis and leprosy ( ) _____

   First aid ( ) _____

   Other ( ) _____

3. Check the following community learning materials you have used. In the blank space, note any community learning materials you need to improve your skill in using.

   Health in the Community ( ) _____

   Health Problems in the Community ( ) _____

   Caring for Your Child ( ) _____

Caring for Your Sick Child	( )	_____
Water and Health	( )	_____
Clean Home and Clean Community	( )	_____
Cycle of Health Cards	( )	_____
The Lady Who Built the Tower	( )	_____
The Story of Grandmother Mamosa	( )	_____
Other	( )	_____

APPENDIX D

CONTINUING EDUCATION QUESTIONNAIRE—CLINICAL

This questionnaire is designed to gather information about your needs as a mid-level health worker for continuing education. This is not a test. This is a guide for your supervisor, the training program manager, and his staff to use in order to better meet your continuing education needs. Please be honest and frank in your comments.

1. Are you satisfied with your clinical performance?

   ( ) Yes ( ) No

2. Do you need to improve your clinical skills?

   ( ) Yes ( ) No

   Check the areas in which you need improvement. Specify your difficulties.

Dental	( )	_____
Eyes	( )	_____
Ears	( )	_____
Nose	( )	_____
Throat	( )	_____
Skin	( )	_____
Respiratory	( )	_____
Heart	( )	_____
Abdomen	( )	_____
Rectal	( )	_____
Male genitals	( )	_____
Female genitals	( )	_____
Musculoskeletal	( )	_____
Neurological	( )	_____
Psychiatric	( )	_____

3. How long do you take to do an adequate medical history during a routine out-patient visit?

( ) 0 to 5 minutes ( ) 5 to 10 minutes
( ) 10 to 15 minutes ( ) 15 minutes or longer

4. How long do you take to do a routine physical examination during a routine out-patient visit?

( ) 0 to 5 minutes ( ) 10 to 15 minutes
( ) 5 to 10 minutes ( ) 15 minutes or longer

Check which of the following areas you cover in your routine medical history. Specify any area in which you need to improve.

Presenting complaint ( ) _____
Duration ( ) _____
Aggravating factors ( ) _____
Alleviating factors ( ) _____
Description ( ) _____
Previous similar illness ( ) _____
Previous serious illness ( ) _____
Habits, smoking, drinking ( ) _____
Diet, if a child ( ) _____
Immunizations ( ) _____
Last menstrual period ( ) _____

Check which of the following areas you cover in your routine physical examination. Specify any area in which you need to improve.

Temperature ( ) _____
Pulse ( ) _____
Respiratory rate ( ) _____
Blood pressure ( ) _____
Urine ( ) _____
Weight ( ) _____
General appearance ( ) _____
Presence of anemia ( ) _____

Presence of jaundice	( )	_____
Presence of edema	( )	_____
Presence of neck stiffness	( )	_____
Presence of goiter	( )	_____
Ear tenderness	( )	_____
Inflamed tonsils	( )	_____
Inflamed conjunctivae	( )	_____
Pale or blue mucous membranes	( )	_____
Abnormal breath sounds	( )	_____
Abnormal heart sounds	( )	_____
Abdominal palpation	( )	_____

5. List the ten most common health problems seen at your health center.

1. _____ 6. _____
2. _____ 7. _____
3. _____ 8. _____
4. _____ 9. _____
5. _____ 10. _____

6. Which of these problems is related to impure water?

7. What have you done to correct problems related to impure water?

8. Which of the above problems is related to poor environmental health practices?

9. What have you done to correct poor environmental health practices?

Has your training as a mid-level health worker fully prepared you to properly function in your health center in the following jobs? If not, please specify your continuing education needs.

10. Management of the health center

Drugs and medical supplies	( ) Yes	( ) No	_____
Equipment maintenance	( ) Yes	( ) No	_____
Communication	( ) Yes	( ) No	_____
Transportation	( ) Yes	( ) No	_____
Finances	( ) Yes	( ) No	_____
Record-keeping	( ) Yes	( ) No	_____
Staff relations	( ) Yes	( ) No	_____
Clinic scheduling	( ) Yes	( ) No	_____

11. Identification of and improvement in community health problems

( ) Yes ( ) No

12. Diagnosis and care of patients with common health problems

( ) Yes ( ) No

13. Community health worker training and support

( ) Yes ( ) No

14. In your opinion, has the course been deficient in preparing you for your work as a mid-level health worker in any areas mentioned, or in any other areas not mentioned? Please explain the deficiency as you see it. How can the continuing education program correct this deficiency? In what ways can the course better prepare future classes of mid-level health workers for their responsibilities at rural health centers and communities?

AREA	DEFICIENCY AND SUGGESTIONS

APPENDIX E

NEWSLETTER

This newsletter was written by the program manager and training staff of a primary health care program. In this example, the mid-level health workers are nurse clinicians.

Dear Nurse Clinicians,

Would you believe it, another month has crept up and is almost finished. I have not had enough time to sit down and scratch my head since when I last wrote you. Things have been extremely busy at the training center recently. We are busy arranging for the Village Health Worker training section of the Nurse Clinician Training Program for Class 2, and at the same time are getting ready the supplies list for your health centers. In addition, whenever problems arise at the health centers, somehow we are called into the picture.

Let me, first of all, share with you all some of the recent and exciting developments that are taking place in how we teach Nurse Clinicians to train Village Health Workers. This year we are hoping to go into an actual village and give the students some on-the-site experience in setting up, initiating, and actually teaching some Village Health Workers. We will be going back to the same village that was used in the mapping and survey exercises during the community phase of training. The students will be going out into the village, Ha-Katu, after they have come back from visiting you in your health centers to gain from you some very practical information on what has worked best for you in your health center.

During the weeks out at Ha-Katu, the students will be broken up into groups, and each group will be assigned the task for teaching a particular topic. They will plan the teaching approach and select the teaching methods that are most appropriate to that topic, and then that will be reviewed with the training staff before they actually teach the topic. While one group will be teaching Village Health Workers, the others will be observers and will give their criticism as to how they saw things going on, because often what actually goes on is not what we think should be going on.

We are very much involved in addressing the question: How will you be able to tell whether the presence of Nurse Clinicians in this country has in fact improved the status of health? We at the training center must be able to provide the answer in the future, so that the Government will know whether to continue training such persons or not to train them at all. The problem that arises is this: What exactly will we be looking at to make the conclusion that Nurse Clinicians are very useful in the rural districts? One way of doing this is to see what changes have taken place in the health status in the villages close to the Nurse Clinicians' health centers. What specific areas will we be looking at in order to see change? For a start we could look at the pattern of diseases or the incidence of certain diseases. We could look at the status of the community's health before the Nurse Clinician was there. I know that you have been there at least six months already, and that we are a bit late in doing this, but, could you help us to gather some baseline data that we could review in a few years time to see if there has been any real improvement?

What am I talking about? I would like you to do a map and survey using the community in which your health center is located. You remember the mapping and survey exercise that you did as part of your training at Ha Mofoka. Well, we would like you to do a similar one for your community. It is the only way we can truthfully say that in the last three years that the Nurse Clinician has been at this health center, the incidence of malnutrition has dropped from 26% to 11%, or that the percentage of properly immunized children rose from 55% to almost 87% in the last three years. Using the data provided in the survey, we could also say that now nearly every household has a pit latrine and all the people now have access to safe water from a protected spring, when this was not so four years ago, before the Nurse Clinician came. Would you not like to know in concrete terms whether you have made a real impact on your community? I think you would, too.

We would like to have this survey as soon as possible, perhaps before the end of July. It only takes sacrificing a few afternoons during the week to go from house to house to collect this information. There is also an added advantage to doing this exercise. It reinforces the idea in your people's mind that here is a Nurse Clinician who is genuinely interested in our welfare. "See how she even comes to our homes."

In two to three years from now, we will be sending members from either Class 3 or 4 to do a follow-up survey in your area, asking the same questions that you will ask and looking at the same things, so that a comparison can be made.

Please read the instructions carefully before starting your survey. The form is very different in layout from the form used during your training, but the information remains the same. Instead of having five different sheets for each household, each household is entered on every sheet of the new format, and there are only a few pages to be completed, not hundreds. If your community is too large, e.g. more than one hundred households, you could do a random sample by surveying every third house or so.

There is one last other thing I would like you to do for us. You will find enclosed in this package a disease surveillance form for specific diseases only. Would you please fill this out daily as you see patients with those specific diseases? You may notice that with most of these diseases one can, at a village level, do something to reduce the incidence or at least the severity of the problem. If typhoid is a problem in your area, and you have protected all the springs and made sure that the water people drink is safe, then in another couple of months one will see a drop in the incidence of typhoid.

All you have to do is, as you see a case of tuberculosis, fill in the O so that it looks like this. If in any one month you have filled in all the O's and still are seeing more cases, then you could do this instead. Once a year, we will ask you to send the forms in and we will give you some analytical feedback on the impact of your health services. Now, is that too much for you to do? YES, much too much. I agree, but could you please assist us in better designing our program to meet the needs of the people you serve? THANKS!

By the way, we have heard from many of you all some pleasant letters and from some others not so pleasant letters. I do not mind reading unpleasant letters. At least you are honestly letting us know how you feel, and we need to know that also.

I would just like to read you a little piece of a really honest letter we received from one of your fellow Nurse Clinicians.

> It is now I am enjoying being at the Health Center and I am not regretting having gone for the Nurse Clinician Training Course. I would not forget the frustration I felt in September 1981, when I was allocated at the Health Center.

> I did not know where to start, as there was lots of confusion . . . but now I am very happy. I do hope that my classmates are also happy.

Now that is what I will hope would be the experience of all of you in the near future. A couple of you have sent in very interesting case studies; some are being used currently in Class 2, and as more come in, these will be used for Class 3 and even for your own continuing education. Speaking of continuing education, we are planning to have the whole of Class 1 down for a National Nurse Clinician Seminar the week of *9-13 August 1982*. What would you like to discuss? More about this later, so start to make your plans to be gone from your health center.

We at the training center have our own thoughts as to what we think would be of most benefit to you all at this stage. We would like to hear some of your own thoughts. For For instance, we would like to bring you up-to-date with the latest in Village Health Worker manuals and the approach to training based on the experience of Class 1 in the field and Class 2 in training. We would also like to spend some time upgrading your clinical skills, to make sure that you are still taking an adequate history and performing a decent physical examination. We may also want to find out from you, by way of a small test, whether you can still remember the common causes of the more common complaints and the treatment of some common diseases. To aid you in your revision, you will also find enclosed a list of the common diseases or the important ones that we think you should know and also a list of the common complaints about which you should know the important causes.

Well, that is all for now folks. We have to rush off. We have just heard that someone may be willing to help the Ministry to buy some of the equipment needed for your health centers.

NURSE CLINICIAN TRAINING STAFF

P.S. I have enclosed answers to last month's questions.

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The MEDEX Primary Health Care Series
University of Hawaii

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